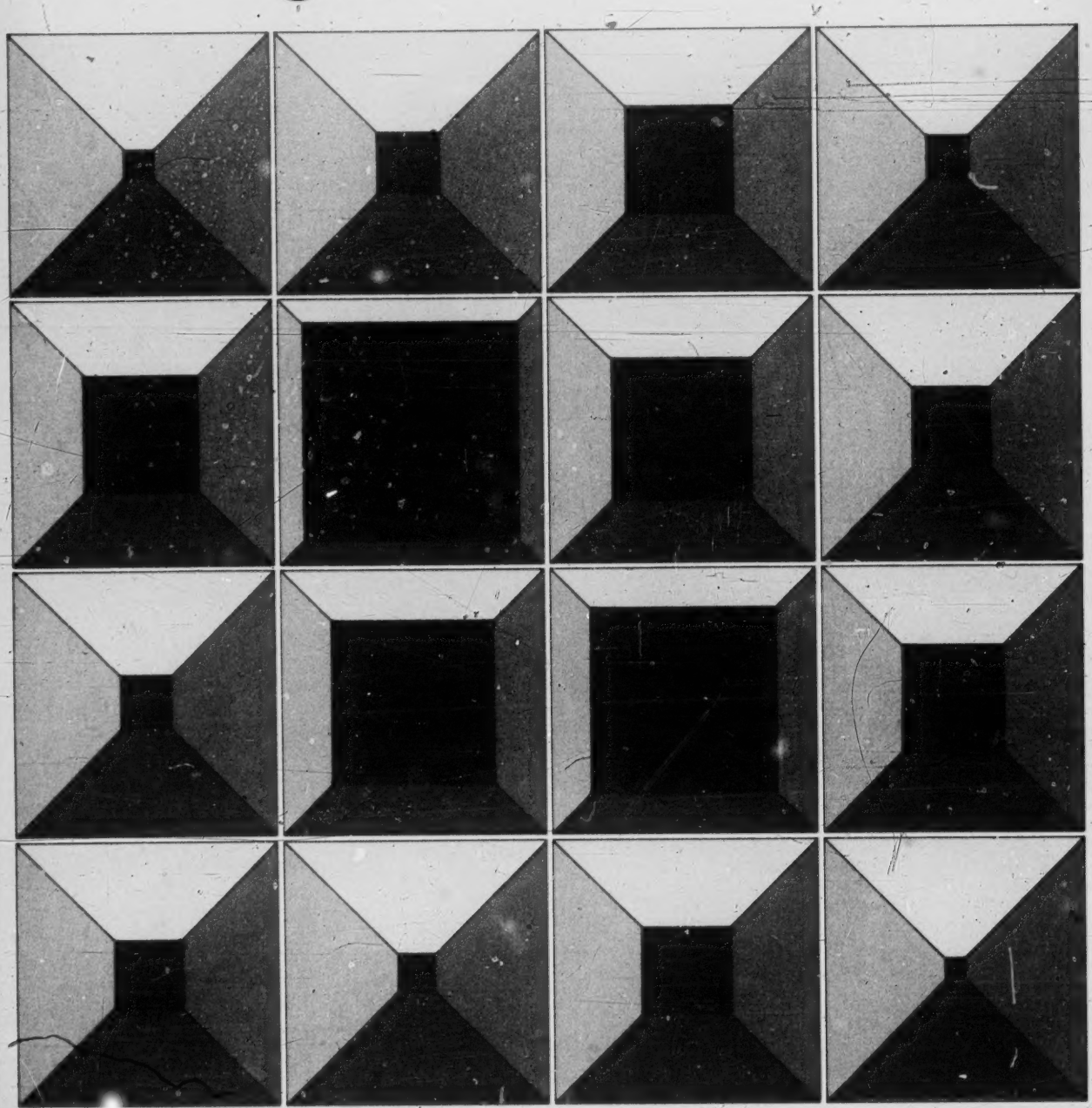
A CBO Study

Improving Military Educational Benefits: Effects on Costs, Recruiting, and Retention

March 1982

Congress of the United States
Congressional Budget Office



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IMPROVING MILITARY EDUCATIONAL BENEFITS: EFFECTS ON COSTS, RECRUITING, AND RETENTION

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PREFACE

Since the close of World War II, educational benefits have been an important part of military compensation. Over that period, their chief purpose has evolved from one of assisting veterans whose educational plans were interrupted by the draft to one of attracting better-qualified recruits under a peacetime volunteer system. A desire to improve recruit quality further, and dissatisfaction with the program, has led to strong interest by the Congress and the defense community in more generous educational benefits. Indeed, 13 bills proposing more generous military educational benefits have already been introduced in the 97th Congress. At the same time, concern has arisen over potentially high costs of these plans and uncertainty as to their effects on recruiting and retention of military personnel. At the request of the House Committee on Armed Services, this study examines the key effects of alternative plans to improve military educational benefits. In accordance with the mandate of the Congressional Budget Office (CBO) to provide objective and impartial analysis, the paper offers no recommendations.

This study was prepared by Daniel Huck, Lorin Kusmin, and Edward Shephard under the general supervision of Robert Hale of CBO's National Security and International Affairs Division. Jerry Allen and Kathleen Loftus of the General Research Corporation designed the computer model used to prepare cost estimates. Edgar Peden, a CBO consultant, assisted in the design. The authors gratefully acknowledge the support provided by Lou Palos of the DoD's Defense Manpower Data Center and Joanne Crowe of the VA's Department of Veterans Benefits who prepared the Vietnam-era GI Bill utilization data base. The study benefited from helpful criticism of earlier drafts by David Grissmer and Richard Fernandez of the Rand Corporation and by CBO staff including John Enns, Neil Singer, Joel Slackman, Robert Vogel, Eileen Maguire, Michael Sullivan, Dorothy Amey, Nina Shepherd, and Maureen McLaughlin. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.) Francis Pierce edited the manuscript; Janet Stafford prepared it for publication.

Alice M. Rivlin
Director

March 1982

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SUMMARY

Proposals have been made in recent years to offer more generous educational benefits as a means of improving military recruiting. Thirteen bills have been introduced so far in the 97th Congress proposing new educational benefit plans.

Interest in a new program stems from concern over declining recruit quality and also from dissatisfaction with the Veterans' Educational Assistance Program (VEAP), a less generous substitute for the Vietnam-era GI Bill. Advocates of a more generous educational benefit contend that its appeal to better-educated, higher-aptitude youth would significantly improve recruiting of high-quality personnel. Since interest in a new program began, recruiting has improved and VEAP has been strengthened. Nonetheless, the services--especially the Army--could still encounter problems attracting sufficient numbers of qualified youths in the 1980s, especially if personnel strengths are increased further to meet expanding defense requirements.

More generous educational benefits might improve recruiting and provide a hedge against future problems. This study finds that improved benefits would increase the enlistment of better-qualified recruits in the Army--the service likely to experience the most difficulties--by up to 15 percent, depending on the option considered. But earned educational benefits also provide servicemembers an incentive to leave in order to use their benefits. Ultimately such separations might offset, in part or in whole, the gains in recruiting. This should be a key concern in evaluating educational benefits.

While they might improve recruiting, additional benefits would, of course, result eventually in higher budgetary outlays--by up to $1.4 billion a year, depending on the option. (Costs are in constant 1983 dollars and assume the benefits are indexed to keep pace with inflation.) Lower costs generally result when these plans "target" or direct their benefits primarily to groups of recruits that are in short supply. Thus the degree of targeting is another key issue.

Improved educational incentives are, of course, not the only way to enhance recruiting. Pay raises for all military personnel

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can be used, though such raises are generally more costly per added high-quality recruit than improved educational incentives. On the other hand, increasing the number of recruiters and offering more enlistment bonuses might cost less per added recruit than would many types of improved educational incentives. Thus the design of any new educational benefits may be the key in determining whether such benefits are a cost-effective way to improve recruiting.

THE NEED FOR A NEW MILITARY EDUCATIONAL BENEFIT

The need for a more generous educational benefit depends largely on how well the services can meet future enlisted recruiting requirements with their present programs. A look at past recruiting trends and present projections may prove helpful.

Recruiting Deteriorated From 1977 Through 1980 but Improved in 1981

A marked decline in recruit quality occurred after the Vietnam-era GI Bill was terminated for new recruits on December 31, 1976. In fiscal years 1976-1979, enlistments of high-quality male recruits--those with high school diplomas and above-average test scores--fell by over 40 percent. Yet, factors other than termination of the GI Bill may largely account for this decline. The policy decisions of the late 1970s hurt recruiting by keeping military pay raises below increases for comparable workers in the civilian sector. So did the reduction in real spending for recruiting and advertising, together with an upturn in the job market.

Whatever the causes, about half of this enlistment decline had been restored by the close of fiscal year 1981. A large share of this improvement is accounted for by substantial pay raises, more resources allocated to recruiting, increasing unemployment, and expanded use of a more generous VEAP.

Future Trends Look Favorable

Future recruiting trends also look favorable. CBO's baseline recruiting projections (see Summary Table 1) suggest that each of the services should be able to meet its goals for numbers of recruits while also meeting or exceeding the minimum quality

SUMMARY TABLE 1. CBO'S BASELINE PROJECTION OF NEW MALE RECRUITS HOLDING HIGH SCHOOL DIPLOMAS, 1983-1987 (By fiscal year, in percents)

	Draft-Era Actual	Actual			Estimated	Projection				
	1966-1970	1979	1980	1981	1982 a/	1983	1984	1985	1986	1987
Army	72	59	49	78	66 b/	72	68	70	69	68
Navy	78	71	74	74	72	72 c/	89	84	84	84
Marine Corps	61	71	76	78	76	84	85	88	87	87
Air Force	92	84	84	89	91	79 c/	96	93	92	88

NOTE: Projection assumes: 1981 high-quality supply level, adjusted for changes in unemployment and population; Congressionally mandated test category IV constraints satisfied; constant (fiscal year 1983) enlisted end-strengths; no limits on career force growth; and annual comparability pay raises.

a/ Annualized rate based on results for the first quarter of 1982.

b/ The drop in the Army high school graduate percent when compared to 1981 results can be attributed to the self-imposed limits (more stringent than in current law) on test category IV high school graduates. When the Army enlisted 78 percent of its male recruits as high school graduates in 1981, its male and female test category IV proportion amounted to 31 percent. During the first quarter of fiscal year 1982, the category IV proportion dropped to about 18 percent.

c/ The larger enlisted strengths requested by the Administration in this fiscal year raise recruiting requirements and thus lower the percentages substantially below those in the remainder of the projection period.

standards mandated by the Congress. (The projection uses as a measure of recruit quality the percentage of male recruits without previous military service who hold high school diplomas. In 1982, the Congress required that this percentage be at least 65, and this minimum may be extended in future years. The Congress also mandated limits on the percentages of recruits who score low on the entrance test; these limits are assumed in the projection.)

While the baseline projection compares favorably to recent experience and to experience in the Vietnam-era draft period, it masks certain underlying trends that run counter to each other. On the one hand, recruiting should be made more difficult by the expected decline in the youth population and a more favorable job market. On the other hand, increases in the number of career personnel should tend to reduce the need for recruits. The projection also assumes a continuation of the favorable 1981 recruiting trend and of the service manpower levels requested by the Administration for fiscal year 1983. Finally, it assumes that military pay raises will remain comparable to those in the private sector.

Additional Incentives May Still Be Needed As a Hedge

Despite the favorable forecast, a number of factors could jeopardize the attainment of future recruiting goals, especially in the Army. Pressure for larger numbers of persons in the military and an improved economy could play a role in making recruiting more difficult. So too could limits on numbers of career personnel the services will accept, since such limits could drive up recruiting requirements. Moreover, the Army, which historically has the lowest proportion of recruits holding high school diplomas among the four services, contends that increases in weapons technology and more sophisticated battlefield tactics demand that the quality composition of its recruits be on a par with the other services. CBO's baseline projection shows the Army's percentages of high school graduates lagging behind the other services by at least 15 percentage points.

Thus, the Congress may wish to improve recruit incentives, especially in the Army, as a hedge against further recruiting difficulties or in recognition of the Army's contention that it needs even better recruit quality. Improved educational benefits could be a means of further enhancing recruit quality and ensuring against possible shortfalls.

PROPOSALS FOR A NEW PROGRAM: ISSUES AND OPTIONS TO CONSIDER

In considering alternative proposals for more generous educational benefits, several major concerns arise: the long-run cost of a program, its effectiveness as a recruiting incentive, and the extent to which it may prove counterproductive by inducing persons to leave the military to take advantage of educational benefits. The four options described in this report explore these issues by amending the current program with progressively more generous features similar to those contained in the numerous legislative proposals. (Summary Table 2 provides details of each option.) While all the services could benefit, the report concentrates on the effect the proposals would have on Army recruiting, where the problems are apparently more pressing. The benefit levels are assumed to be increased or "indexed" to keep pace with inflation, since otherwise their value as a recruiting incentive would be gradually eroded. (The Congress frequently raised benefit levels under the Vietnam-era GI Bill.)

Option I. Continue Current VEAP With "Kickers"

This option would continue the current VEAP for fiscal year 1983 and beyond. The basic contributory VEAP would remain available for all services. Under this program, servicemembers could choose to contribute between $25 and $100 a month of their basic pay, up to a total of $2,700; DoD would match contributions on a two-for-one basis. In addition, only the Army would continue to offer a $12,000 supplemental payment ("kicker") to basic VEAP for high school graduates with above-average test scores who enlist into selected skills. This kicker (called Ultra-VEAP) would be more generous than the amount available in 1981, when most kickers ranged between $2,000 and $6,000.

CBO estimates that the annual cost of this program (in constant fiscal year 1983 dollars) would eventually reach $139 million beyond the year 2000 (see Summary Table 3). Moreover, CBO estimates that continuation of the current program (Ultra-VEAP) would increase Army high-quality enlistment supply by between 2 and 6 percent over what would result from continuing VEAP kicker payments at 1981 levels. Yet, once servicemembers earn the benefit, it could also increase separations as persons leave the military to take advantage of their benefits. Once the increased turnover is taken into account, net improvement in Army high-quality recruiting ranges between about 0 and 4 percent (see Summary Table 3).

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SUMMARY TABLE 2. EDUCATIONAL BENEFIT OPTIONS

Option		Program Design Features	Maximum Accumulated Benefit Paid by DoD a/ (dollars)	Anticipated Monthly Stipend for Full-Time School Attendance (dollars)
I.	Contributory VEAP	DoD contributes $2 for each $1 a servicemember contributes. Maximum accumulation pays out $225 monthly for 36 months' schooling.	5,400 b/	150 c/
	With kickers (current policy)	Adds $12,000 DoD contribution for Army high school graduate test category I-IIIA enlistments for 36 months' contributions.	17,400 b/	510 c/
II.	Non contributory Plan	Each month's service provides one month's benefit at $225. Maximum 36 months.	8,100	225
	With supplemental	Supplemental equivalent to kicker in Option I	20,100	560
III.	Two-tier Noncontributory Plan	Same as Option II, except completion of six years' service doubles value of 36 months' basic benefit.	16,200	225/450
	With supplemental	Same as Option II.	28,200	560/785
IV.	Two-tier Noncontributory Plan With Benefit Transfer	Same as Option III, except ten years' service allows expenditure of earned benefit by spouse and college-age children. Must remain on active duty (or retire) during transfer.	16,200	225/450
	With supplemental	Same as Option II.	28,200	560/785

a/ By comparison, the Vietnam-era GI Bill now provides a maximum earned benefit of about $18,300 (for the typical veteran with one dependent).

b/ Figures shown exclude $2,700 that must be contributed by plan participant to accumulate maximum benefit.

c/ Assumes member contributes $50 monthly for 20 months, and receives two-for-one matching funds from DoD, plus supplemental benefits if applicable. This represents the typical amount and length of participation by VEAP participants to date.

SUMMARY TABLE 3. EFFECTS ON COSTS, RECRUITING, AND RETENTION a/

Option	Annual DoD Steady-State Costs b/ (In constant 1983 dollars)	Percentage Increase in High-Quality Accessions		Less the Percentage Change in High-Quality Recruiting Requirements c/	Net Percentage Change in High-Quality Recruiting	
		Low	High		Low	High
Option I. Contributory VEAP	139	2	6	2	0	4
Option II. Noncontributory Plan	720	3	11	5	-2	6
Option III. Two-Tier Non-contributory Plan	1,093	3	12	5	-2	7
Option IV. Two-Tier Non-contributory Plan With Benefit Transfer	1,417	4	14	0	4	14

a/ Estimates take into account the effect of the Army VEAP "kicker" program (less generous than Option I) available in fiscal year 1981 and thus show the net percentage improvement in Army high-quality recruiting when the options (with supplemental) are chosen as a substitute.

b/ Figures represent total costs for all services (enlisted and officer), but assume only Army high-quality recruits receive "kicker" or supplemental payments. Steady-state conditions, where maximum annual outlays are reached, occur in 1996 for Option II, 1999 for Option III and Option IV, and beyond the year 2000 for Option I. All estimates assume annual adjustment in benefit amounts commensurate with the rate of inflation.

c/ These figures represent the increased high-quality recruiting requirement necessary to offset the additional high-quality separations attributed to implementation of the option (with supplemental).

Thus, Option I is a relatively inexpensive program that could provide a modest improvement in Army recruiting. A modest improvement may be all that is needed, if CBO's baseline recruiting projections prove correct. Option I also represents a more cost-effective program than the other options; its cost per added high-quality recruit is less than half that of the other three options.

Option I would not, however, provide the substantial improvement in recruiting that could be needed if, for example, Army personnel strengths were to increase sharply. Moreover, this program might be open to some of the criticisms raised against the older version of VEAP implemented in 1977, including low participation and inequity. Most of this criticism would focus on the requirements under Option I that servicemembers contribute to the program.

Option II. Offer a Noncontributory Basic Benefit With Supplemental Payments

Some critics contend that the contributory requirement of VEAP makes it difficult for lower-paid persons to participate. One response would be to institute a noncontributory program. Under this option, DoD would provide a benefit payable at $225 monthly for each month of military service, up to a maximum of 36 months. This would provide a maximum benefit equal to that under Option I without requiring any contribution from the servicemembers. Also, this option assumes that, as in Option I, the Army offers a supplemental monthly payment equivalent to the $12,000 kicker for high-quality recruits entering selected occupations.

When compared to Option I, costs would rise substantially, reaching $720 million by 1996 (see Summary Table 3). Recruiting would improve under the program. But a greater number of separations from the service would also occur because of the larger number of persons participating in the program and because of their tendency to leave in order to use earned benefits. After adjusting for increased separations, the net gain in high-quality recruiting performance would range between -2 percent and 6 percent for the Army. Thus, it is conceivable that the adoption of Option II could be counterproductive for Army recruiting.

Option III. Enact a Two-tier Noncontributory Benefit With Supplemental Payments

This approach responds to the concern over the previous options' tendency to increase separations. Option III doubles the monthly benefits, from $225 to $450, upon completion of six years' service. Such a higher "second tier" of benefits--which has been proposed in some bills before the Congress--is intended to encourage those contemplating leaving after their first term to reenlist. (The first term typically ends after three years' service for Army personnel.)

CBO finds, however, that doubling the basic benefit after six years' service reduces only modestly the incentive to separate after the first term and increases this incentive after six years' service. Thus, at least in the Army, Option III causes the same increase in separations as Option II. The net improvement in recruiting still ranges between about -2 percent and 7 percent. Therefore, the danger still exists that implementation of a program such as that described under Option III could have an overall adverse effect on Army quality recruiting performance.

In addition, because of the higher "second tier" of benefits, the long-run costs (reached by 1999) of Option III total $1.1 billion a year, over 50 percent higher than those under Option II.

Option IV. Enact a Two-tier Noncontributory Benefit With Supplemental Payments and Transferability

Option IV includes an additional provision to offset increased separations caused by educational benefits. The "transferability" feature of this option has been a concept favored by the military services and incorporated in most of the legislative proposals. Proponents argue that allowing servicemembers who remain on active duty to transfer their earned benefits to their spouses or college-age children would counter the tendency to separate.

Unlike the second-tier benefit, this transferability provision fully offsets the option's incentive to separate. Thus Option IV produces a net improvement in high-quality Army recruiting of between 4 and 15 percent. Yet as Summary Table 2 shows, the adoption of this provision would raise costs considerably. When compared to Option III, net long-run costs (reached in year 1999) would increase by about $320 million, to $1.4 billion a year.

Cash-out As a Cheaper Alternative to Transferability

While transferability does reduce separations, other less expensive alternatives may be available. For example, the Congress could allow a servicemember who reenlists, and who has earned educational benefits, to forgo all his educational entitlement in return for a portion of its cash value. This "cash out" might be more cost-effective than transferability. Permitting servicemembers who reenlist to receive 25 percent of the face value of their earned benefit in exchange for permanent loss of the entitlement would largely offset the incentive to leave. In the case of Army enlisted personnel, a 25 percent cash-out would cost about $125 million annually. But this cost would eventually be offset by an estimated $110 million annual savings in educational benefits forgone by those electing to cash out. Thus, in the long run, the net cost would be $15 million annually, far below the $108 million in costs for extending transferability to Army enlisted personnel.

OTHER ISSUES TO CONSIDER

Along with decisions about the type of any new educational benefit, the Congress may need to consider how to budget for educational benefits and whether other recruiting incentives should also be examined.

Accrual Budgeting for Educational Benefits

Educational benefit proposals represent a deferred benefit, in the same way that retirement benefits do. Thus, under the current pay-as-you-go system of accounting, the full cost of a proposal would not appear in the budget until many years in the future. If, for example, one of the options described in this report was implemented it would not incur costs until fiscal year 1985 and would not approach maximum outlays until at least ten years later. Thus, the temptation exists to disregard costs during the decisionmaking process.

Accrual budgeting would explicitly recognize, in the current budget, the liability incurred for future expenditures on educational benefits earned by today's military personnel. While no costs would occur in fiscal year 1983 on a pay-as-you-go basis, the charge to DoD under an accrual accounting system would approximate $120 million for Option I and would increase to $1.0 billion for Option IV.

Cost Effectiveness of Recruiting Incentives

The services, especially the Army, may need additional incentives as a hedge against future difficulties in attracting high-quality recruits. Yet enacting a noncontributory education benefit, such as those in Options II to IV, may not be the least costly way to attract more high-quality recruits. Expanding the recruiter force, or increasing cash enlistment bonuses, are two alternatives that could increase numbers of high-quality recruits at less cost.

This does not mean that improved educational benefits--especially if carefully designed--could not be cost-effective. Most forms of improved educational benefits are likely to be more cost-effective than across-the-board increases in basic pay, for example. Moreover, the Congress could improve the cost-effectiveness of educational benefits by targeting them on recruits in short supply and by establishing more restrictive eligibility standards than were typical of the Vietnam-era GI Bill. With these actions, educational benefits could compare favorably with other measures such as added recruiters and higher enlistment bonuses.

CHAPTER I. INTRODUCTION: THE NEED FOR ADDITIONAL INCENTIVES TO SUPPORT THE ALL-VOLUNTEER FORCE

The advent of the all-volunteer force brought widespread concern as to whether voluntary enlistments would provide the services with the quantity and quality of personnel they needed. To meet this concern, the Congress enacted significant military pay increases in 1980 and 1981. These raises not only improved recruiting directly; they also helped the services to retain career personnel and so lowered their demand for recruits. All the services met or exceeded their goals for numbers and quality of recruits in fiscal year 1981.

The question remains, however, whether the services--especially the Army--will continue to meet their recruiting needs over the decade of the 1980s. A number of factors, such as a turnaround in the favorable 1981 results, or a need for larger military forces or for personnel of higher qualifications, could intensify the recruiting problem again.

Additional recruiting incentives may be necessary. Whether a more generous military educational benefit should be among these incentives, especially in light of its potentially high cost, remains an issue actively debated within the Congress and the Administration. In recognition of the growing debate, this report examines the personnel and cost implications of a more generous military educational benefit.

The remainder of this chapter addresses recent and projected trends in recruiting and retention to assist the Congress in evaluating the need for additional incentives. Chapter II discusses problems with the Veterans' Educational Assistance Program (VEAP) implemented in 1977 and recent modifications to strengthen the program. Chapter III examines issues raised by the numerous bills intended to improve military educational programs; it also develops four options as a framework for evaluating the effects of educational benefits on costs and recruiting and retention. Chapter IV provides this evaluation, while Chapter V concludes with some other issues--such as benefits for the Selected Reserves--that the Congress might wish to consider.

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As this discussion suggests, the study concentrates on evaluating the effects of improved educational benefits on military recruiting and retention. Yet improved educational benefits could have other effects. The benefits could encourage more persons to attend school, which might contribute to social and economic welfare. They could also provide a substantial subsidy to institutions of higher learning, which face decreased federal funding and declining enrollments over the next decade. Evaluation of these effects, while potentially important, is not within the scope of this report.

RECENT RECRUITING HISTORY

The past several years have been marked by fluctuations both in recruiting requirements and in available supplies of better qualified recruits. With only a few exceptions, all four services have been able to meet their numerical goals for recruits. 1/ But they have not always been successful in meeting their goals for "high-quality" recruits--generally assumed to be those holding high school diplomas who score in the upper half on the entrance examination given to all new recruits. 2/ The Army--which has the most serious recruiting problems--suffered a decline in numbers of high-quality recruits for three consecutive years, 1977 through 1979. The combination of high demand and poor recruiting made 1980 one of the worst recruiting years in recent history. But increased pay and other factors turned quality recruiting around sharply and, when coupled with a low recruiting requirement, made 1981 one of the best years on record.

According to advocates of improved educational benefits, the loss of the Vietnam-era GI Bill, beginning in 1977 for new

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1/ One exception was fiscal year 1979, when the Department of Defense fell 7 percent short of its recruit quotas (11 percent in the Army). See Congressional Budget Office, Costs of Manning the Active-Duty Military (May 1980), p. 3.

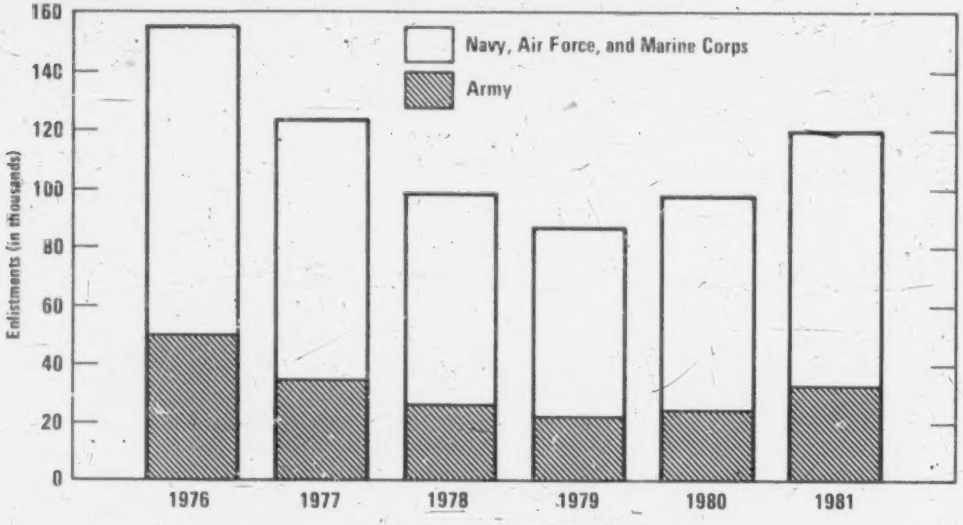
2/ The 1981 and 1982 defense authorization bills required that at least 65 percent of new male recruits have high school diplomas. Also, no more than 25 percent of each service's recruits can score in the lowest acceptable test category IV in fiscal year 1982. For fiscal year 1983 and beyond, this limit is cut to 20 percent.

recruits, caused the sharp drop in quality volunteers in the late 1970s. 3/ Indeed, recruiting data show a subsequent decline in educational levels and aptitude test scores for new enlisted volunteers. As depicted in the figure, the number of male recruits with both a high school diploma and above-average entrance test scores fell by over 40 percent between 1976 and 1979.

Other factors, however, may largely account for this decline, as well as for the recent recovery in high-quality recruiting. The policy decisions of the late 1970s to keep military pay raises below increases for comparable workers in the civilian sector,

Figure 1.

Enlistments of Male High School Graduates in Above-Average Test Categories (I-IIIA), Fiscal Years 1976-1981



SOURCE: U.S. Department of Defense. Excludes recruits with previous service.

3/ The Vietnam-era GI Bill, enacted in 1966 and terminated for new entrants in 1977, provided one and one-half months' benefit for each month of active-duty service, with 45 months' benefit after 18 months of service. Eligible single veterans studying full-time now receive $342 monthly.

and to reduce outlays (after adjustment for inflation) for recruiting and advertising, together with an upturn in the job market, all played an important role in depressing high-quality volunteer enlistments. 4/

About one-half of this enlistment decline had been restored by the close of fiscal year 1981. The recruiting upturn that began in 1980 can in part be attributed to an 11.7 percent military basic pay raise (substantial as compared to four previous years of below-comparability raises), increases in other pays and allowances, a rise in private-sector unemployment, more resources allocated to recruiting, and the expanded use of more generous educational benefits. Recruiting should be further stimulated by the 10.4 percent recruit basic pay raise for fiscal year 1982, as well as by the deepening economic recession. 5/

FUTURE RECRUITING PROSPECTS: A PROJECTION

CBO has prepared a baseline projection of recruiting performance for fiscal years 1983 through 1987 (see Table 1). The projection assumes that each service meets its numerical goals for recruits, as they have almost always done. The projection uses as a measure of recruit quality the percentage of male recruits without prior military service who hold high school diplomas. In 1982, the Congress required that the Army recruit at least 65 percent with high school degrees. This minimum may be extended to future years.

The baseline projection of recruiting performance in coming years compares favorably to recent experience and to experience in

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4/ For a discussion of these issues, see Costs of Manning the Active-Duty Military, especially pp. 3-10. A recent econometric analysis of enlistment supply appears to support these as reasons for the decline. See also Larry Goldberg, "Summary of Navy Enlisted Supply Study," memorandum (CNA) 81-1158, Center for Naval Analyses (July 1981).

5/ First-quarter results for the Army seem to confirm this. High-quality male recruiting was up 23 percent in the first quarter of fiscal year 1982 over the same quarter in 1981. All services except the Navy, which had a lower recruiting objective, experienced an increase in high-quality male recruiting.

TABLE 1. CBO'S BASELINE PROJECTION OF NEW MALE RECRUITS HOLDING HIGH SCHOOL DIPLOMAS, 1983-1987 (By fiscal year, in percents)

	Draft-Era Actual	Actual			Estimated	Projection				
	1966-1970	1979	1980	1981	1982 a/	1983	1984	1985	1986	1987
Army	72	59	49	78	66 b/	72	68	70	69	68
Navy	78	73	74	74	72	72 c/	89	84	84	84
Marine Corps	61	71	76	78	76	84	85	88	87	87
Air Force	92	84	84	89	91	79 c/	96	93	92	88

NOTE: Projection assumes: 1981 high-quality supply level, adjusted only for changes in unemployment and population; Congressionally mandated test category IV constraints satisfied; constant (fiscal year 1983) enlisted end-strengths; no cap on career force growth; and annual comparability pay raises.

a/ Annualized rate based on results for the first quarter of 1982.

b/ The drop in the Army high school graduate percent when compared to 1981 results can be attributed to the self-imposed limits (more stringent than in current law) on test category IV high school graduates. When the Army enlisted 78 percent of its male recruits as high school graduates in 1981, its male and female test category IV proportion amounted to 31 percent. During the first quarter of fiscal year 1982, the category IV proportion dropped to about 18 percent.

c/ The larger enlisted strengths requested by the Administration in this fiscal year raise recruiting requirements and thus lower the percentages substantially below those in the remainder of the projection period.

the Vietnam-era draft period. However, it masks certain underlying trends that run counter to each other. On the one hand, a decline in the youth population and anticipated improvements in employment should make recruiting more difficult. But these are largely offset by increases in the number of career personnel, which reduce the need for recruits.

The projection rests upon a continuation of military personnel policies at the end of 1981 as well as assumptions about economic and demographic trends:

- Enlisted strength levels for the end of fiscal year 1983 remain as proposed in the President's budget. As compared to 1981 actual enlisted strength levels, the Navy and Air Force show increases of about 38,000 and 24,000 respectively by the end of fiscal year 1983. 6/

- The statute limiting the proportion in test category IV (the lowest acceptable test category) to no more than 20 percent of new recruits remains in effect. This constraint would affect primarily Army recruiting, since the other three services have traditionally enlisted proportions of such recruits at or below the 20 percent limit. 7/

- Present rates of enlisted retention continue throughout the projection period. This results in a substantial increase in the proportion of career servicemembers and a corresponding reduction in recruiting requirements. In the Army, for example, the projection allows for a growth

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6/ Note that about 12,000 of the Navy increase represents a transfer to reserve status. These individuals will, however, remain on active duty in support of the reserves.

7/ Even though 78 percent of the Army's male recruits in 1981 were high school graduates, the proportion of all new male and female recruits scoring in test category IV, the lowest acceptable, was 31 percent. During the first quarter of fiscal year 1982, Army test category IV content has dropped to about 18 percent. This was in part accomplished through a smaller intake of test category IV high school graduates, which reduced the male high school graduate content to 66 percent.

in the proportion of career servicemembers (that is, those with more than four years' service) from 42 to 52 percent by 1987. An even more striking increase occurs in the Marine Corps, where the proportion rises from 32 to 44 percent by 1987.

- Recruiting policies affecting females and those with previous military service remain unchanged. More specifically, the number of female recruits remains unchanged and the proportion of recruits who have seen previous service also remains unchanged. Clearly, adjustments in these policies would affect requirements for new male recruits and alter the baseline projections in Table 1.

- Comparability pay increases for military personnel are continued. In 1981 and 1982, the Congress provided substantial pay raises; should it fail to continue maintaining pay at competitive levels, both recruiting and retention would suffer.

- CBO's assumptions underlying its economic projections for 1982-1987, together with census projections of a decline in the youth population, are realized. 8/

ALTERNATIVE PROJECTIONS WITH LESS FAVORABLE ASSUMPTIONS

Any projection of recruiting performance involves uncertainties. In the first place, economic factors that affect the supply of recruits (such as employment and wages) may change. Second, military personnel policies that affect the demand for recruits may also change. Table 2 provides alternative projections of Army recruiting performance based on less favorable assumptions than the baseline projection. The Army was chosen because its recruiting is most sensitive to the quality constraints imposed by the 1981 and 1982 defense authorization bills.

8/ CBO's latest baseline economic projection shows unemployment falling from 8.9 percent in calendar year 1982 to 6.7 percent by 1987. The youth population is anticipated to decline by 13 percent over the same period, although there are substantial differences in the percentage decline by various demographic groupings (see Table B-7 in Appendix B).

TABLE 2. ALTERNATIVE PROJECTIONS OF NEW MALE ARMY RECRUITS HOLDING HIGH SCHOOL DIPLOMAS, 1983-1987 (By fiscal year, in percents)

	1983	1984	1985	1986	1987	Average 1983-1987
Baseline (from Table 1)	72	68	70	69	68	70
Alternative I Unemployment drops to 5.6 percent instead of 6.7 percent by 1987	71	67	69	67	67	68
Alternative II High-quality recruit supply falls to 1980-1981 average	66	62	65	63	63	64
Alternative III Army limits career force growth to one-half the baseline projection	66	64	66	63	62	64
Alternative IV Army phases in a 100,000-strength increase by 1987	64	60	61	58	56	60

Lower Unemployment

High-quality recruit supply has been found sensitive to changing economic conditions. Thus, a more optimistic projection of the economy that lowers unemployment will lower the supply of high-quality recruits. Under CBO's baseline economic projection, unemployment falls to 6.7 percent by 1987. In its more optimistic economic scenario, however, CBO assumes unemployment will fall to 5.6 percent by 1987.

This lower rate of unemployment reduces the percentage of high school graduates among recruits by an average of two percentage points over the projection period (see Alternative I in Table 2). It should be noted that lower unemployment would also adversely affect reenlistment rates, thus raising recruiting requirements if strength levels are to be maintained. This should further reduce the high school percentages below those shown in Table 2, although to what degree cannot be estimated.

A Fall-off in High-Quality Recruit Supply

Alternative II shows how the baseline projection would be affected if Army high-quality recruit supply dropped back to the average level of 1980 and 1981, rather than the level achieved in 1981. 9/ Under this alternative, recruiting performance would be an average of six percentage points lower over the five-year projection period. This could cause the Army in several of the years beyond 1983 to breach the 65 percent minimum established in this year's defense authorization bill. Should this statutory minimum be continued in coming years, the Army would need additional incentives to increase recruit supply and/or take action to reduce the demand for male recruits without previous service.

A Limitation on Career Force Growth

The Army has indicated that it intends to limit first-term reenlistments, which will tend to drive up recruiting requirements beyond the baseline projection if total enlisted strengths remain unchanged. Such limits could be imposed to maintain the high quality of all reenlistees or for other reasons. Under the baseline projection, the career force increases from today's

9/ In computing this average, the 1980 recruit supply figures were adjusted for the effects of changes in unemployment and compensation during 1981. The marked improvement in high-quality Army recruiting that occurred in 1981 and appears to be continuing in 1982 cannot be fully explained by the traditional economic and policy variables used to estimate high-quality recruiting supply. For this reason its full continuation is subject to a greater degree of uncertainty. From this perspective, Alternative II represents a plausible scenario.

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42 percent to 52 percent of the enlisted force by 1987. This alternative would halve that rate of growth by restricting the proportion of careerists to 47 percent of enlisted strength by fiscal year 1987. The effect of this action would be to raise recruiting requirements and thus to lower high school graduate percentages. As shown in Table 2, average recruiting performance over the projection period would be six percentage points lower should the Army adopt such a policy. As in Alternative II, the Army runs the risk of breaching the 65 percent male high school graduate minimum in some years beyond 1983. 10/ This problem could occur even earlier if, as the Army proposes, no growth in the career force is allowed in 1983. 11/

An Increase in Army Enlisted Strength.

An increase in Army enlisted strength would raise recruiting requirements and result in performance below the baseline

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10/ As noted earlier, continuation of present retention trends would result in a rapid growth of the career force in all the services. The Marine Corps in particular may be very reluctant to permit such continued growth, which would result in a weaker recruiting performance than that projected in Table 1. The Navy, on the other hand, may encourage further career force growth to match the anticipated expansion of the fleet under current proposed shipbuilding programs. Whether the Air Force will permit continued growth in its career force in the absence of any substantial change in missions remains unclear. In any event, this Army alternative projection underscores the substantial effect that career force management policies can have on recruiting requirements.

11/ In DoD's annual report to the Congress, the Army proposes no growth in its career force in 1983. According to CBO's estimate, this Army policy would result in 16,800 fewer career servicemembers than in CBO's baseline projection and thus drive up its recruiting requirement by 18,700 (to include losses during training). As a result, the male high school graduate ratio in fiscal year 1983 would drop from 72 (baseline projection) to 64 percent. Apparently this policy stems from the Army's desire to refuse reenlistment to those less qualified recruits who entered during the poor recruiting years of 1979 and 1980. The Army has provided no indication that it intends to continue such a policy beyond 1983.

projection. Alternative IV illustrates what would happen to recruiting performance should the Congress authorize an increase of 100,000 Army enlisted personnel by 1987, with the increase phased in at 20,000 annually beginning in fiscal year 1983. Such an increase might be called for if, for example, the Congress wished to add to the number of Army divisions or to add support forces to aid in Rapid Deployment Force missions. While no such increase has been requested for the next few years, it would have important recruiting effects. 12/ This approximate 15 percent increase in enlisted strength would drive up recruiting requirements and result in a ten-percentage-point drop below the baseline projection. Moreover, the high school graduate percentage of new male recruits, averaging 60 percent over the five-year projection period, would be well below the 65 percent minimum established in the 1982 defense authorization bill.

Higher Quality Requirements

While achievement of the baseline projection for the Army would represent an improvement in recruiting performance over recent experience, it would still leave the Army behind the other services. The Army percentages of high school graduates would continue to lag behind those of the other services by 15 percentage points or more. In addition, some argue that present-day weapons technology and complex battlefield tactics, coupled with the high cost of training, may demand a better educated recruit. 13/ In apparent recognition of this, the Army has set fiscal year 1982 and 1983 objectives of 85 percent as the proportion of male recruits with high school diplomas. 14/ Such a sharp increase

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12/ The Army has proposed to increase its enlisted strength by about 30,000 by fiscal year 1987. The increase would not begin until fiscal year 1985, however, postponing any recruiting or retention difficulties such growth might entail.

13/ For some insight into the relationship between recruit test categories and performance in combat arms skills, see David J. Armor, Mental Ability and Army Job Performance (The Rand Corporation, 1981).

14/ As noted in Table 1 the percentage in 1981 was 78. During the first quarter of this fiscal year it was 66. The Army objectives are stated in The Army Budget, Fiscal Year 1983, Comptroller of the Army (February 1982), p. 22.

would be difficult to achieve and might be difficult to justify, given that the Army has operated for years with lower percentages.

ADDED RECRUITING INCENTIVES AS A HEDGE

The baseline recruiting projections compare favorably with recent volunteer and earlier draft-era performance. The baseline projection also suggests that the Army, which generally has the most serious recruiting problems, has a reasonable chance of achieving its numerical recruiting requirements while simultaneously meeting or exceeding the quality standards mandated by the Congress. Indeed, added incentives may be needed primarily as a hedge against recruiting difficulties arising from policies and events of the kind described in the alternative projections, such as increases in end strengths or a decision to limit the size of the Army career force. The remaining chapters in this study discuss the costs and effects of providing such a hedge through educational benefit programs.

CHAPTER II. ISSUES SURROUNDING THE CURRENT POST-SERVICE MILITARY EDUCATIONAL BENEFIT PROGRAM

At the urging of the Administration, the Congress terminated the Vietnam-era GI Bill for new recruits on December 31, 1976, and replaced it with the Veterans' Educational Assistance Program (VEAP), a less generous contributory plan. The Vietnam-era GI Bill and its two predecessors--the World War II and Korean GI Bills--were instituted primarily to assist veterans in the readjustment process to civilian status and to restore lost opportunities for those whose educational plans had been interrupted by military service. These needs largely ended with the elimination of the peacetime draft and the enactment of substantial recruit pay increases. Accordingly, the Congress passed the less expensive VEAP, which was intended primarily to improve recruiting.

As implemented in 1977, VEAP encountered significant criticism. This prompted the Congress and the Administration to make improvements ~~in VEAP during 1~~980 and 1981, and also led to a number of legislative proposals for a substitute program (discussed in the next chapter). This chapter examines the criticisms of VEAP as originally implemented and summarizes the actions taken to strengthen the program.

PROBLEMS WITH VEAP AS ORIGINALLY IMPLEMENTED IN 1977

In 1977, an eligible servicemember (that is, anyone without prior service who entered active duty after 1976) could participate in VEAP by contributing between $50 and $75 monthly through a payroll deduction plan, up to a maximum of $2,700. The servicemember's contribution was placed in a non-interest-bearing education account. The Veterans Administration was to match each $1 deposited with $2 when and if the participant elected to attend a VA-approved school. 1/ Thus a participant could accumulate an

1/ In January 1982, financial responsibility for VEAP shifted from the VA to the DoD. Originally the DoD financed only the supplemental ("kicker") benefits added to certain servicemembers' accounts. Now the DoD must finance both the two-for-one

educational fund of $8,100--$2,700 from personal savings and $5,400 in government matching funds.

The matching funds can only be withdrawn when a participant is attending school, and in equal monthly installments. A servicemember who has contributed $75 monthly for 36 months (the $2,700 maximum) will be able as a veteran to withdraw 36 equal installments of $225 (the maximum $8,100 fund) for full-time school attendance. 2/ Should the veteran elect not to train, or train only part-time, or attend school for fewer months than covered by contributions, the balance contributed by the particapant (but not the government's share) will be refunded.

The available evidence suggests that most VEAP participants who enrolled between 1977 and 1979 adopted a contribution schedule much lower than the $75 maximum, and most suspended their contributions before reaching $2,700. Although the program has yet to mature fully, records at the end of fiscal year 1981 showed that participants (both former and those currently active) have averaged $1,000 in total contributions.

Criticisms of VEAP As Originally Implemented in 1977

Disappointment in VEAP's effectiveness generally centers on three aspects of the program's performance:

- An enrollment rate lower than anticipated, with participation unevenly distributed among various groups.
- A rate of disenrollment considerably higher than expected, especially among married servicemembers.
- Less effectiveness than anticipated in the recruitment of better-qualified youth.

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matching as well as the supplemental benefit for any eligible training servicemember or veteran. The VA, however, retains administrative responsibility for the program.

2/ In contrast, the Vietnam-era GI Bill now pays a without-dependent monthly rate during full-time school attendance of $342. Moreover, the disparity in benefit amounts becomes even sharper when comparing only what VA (now DoD) contributes under basic VEAP--a maximum of $200 monthly.

Lower Participation. From the inception of the program in 1977 through the close of fiscal year 1981, about 385,000 servicemembers, or approximately 25 percent of the eligible enlisted population, contributed to VEAP. 3/ The Air Force had the lowest rate of participation at just over 9 percent; for the other three services, participation ranged between 25 and 30 percent. 4/ After adjusting these participation rates for later disenrollments and for contribution patterns that yield considerably less than maximum benefits, the annual percentage of eligible veterans who benefit will be very small. Historically, about two-thirds of eligible veterans have used some of their Vietnam-era GI Bill benefits. Should present trends continue, no more than 15 percent of VEAP-eligible recruits will ever be in a position to attend school as veterans using VEAP benefits. 5/

Higher Disenrollments. Disenrollment refunds as a percentage of total participants has grown sharply. At the end of fiscal year 1979, the disenrollment refund rate amounted to 15 percent of total participants (that is, all current and former contributors). By the close of fiscal year 1981, about one-third of VEAP contributors had disenrolled and received a refund of their contributions.

A survey of about 15,000 enlisted VEAP participants on active duty during the spring of 1980 revealed distinct demographic differences between those who were still active contributors (about two-thirds of the sample) and those who had suspended contributions and/or requested a refund. 6/ In comparison to the

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3/ Data provided by the Veterans Administration.

4/ For additional details on the characteristics of VEAP participants see: Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics), Fourth Annual Report to the Congress on the Post-Vietnam Era Veterans' Educational Assistance Program (October 1981).

5/ Although about 100,000 original VEAP contributors had separated from active duty between the inception of the program and the end of fiscal year 1981, only about 8,300 were using VEAP benefits during fiscal year 1981.

6/ It should be noted, however, that a number of those servicemembers who either temporarily suspended their contributions or received a refund later reestablished active

active contributors, this latter group of inactive and former participants were disproportionately members of racial/ethnic minority groups, were of lower aptitude and less educated, and more commonly had spouses and dependents. Married contributors, for instance, were found to suspend their contributions and/or obtain a refund at a rate two and one-half times greater than their nonmarried counterparts. Financial hardship was most often cited as the reason for discontinuing participation in the program; other factors were uncertain educational goals, desire for a military career, and a poorly informed initial decision to participate. 7/ Undoubtedly, the turnover in the program reflects a process of self-selection in which those with the highest likelihood of later attending school (the better educated, those with higher aptitude, the single, the younger veterans) will show the highest initial participation and the longest persistence.

Disappointing Recruiting Results. A DoD-sponsored evaluation of VEAP field tests found at most only a modest improvement in the supply of high-quality recruits. A Rand Corporation evaluation of various recruiting options available in 1979 indicated that when supplemental payments ("kickers") between $2,000 and $4,000 were added to the basic VEAP, high-quality Army male enlistments (that is, high school graduates in above-average test categories) increased by about 7 percent. 8/ One

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participation. For an analysis of VEAP disenrollment see: Mark J. Eitelberg and John A. Richards, Survey of Participants and Inactive/Former Participants in the Post-Vietnam Era Veterans' Educational Assistance Program: Results and Conclusions, HumRRO Final Report 80-11 (September 1980).

7/ An earlier GAO field study of VEAP first identified these as reasons for both low participation and high disenrollment. See Comptroller General of the United States, Improvements Needed in Implementation of the Veterans' Educational Assistance Program (November 1978).

8/ See Gus E. Haggstrom, and others, The Multiple Option Recruiting Experiment (The Rand Corporation, August 1980), p. 30. Although no specific estimate of basic VEAP's recruiting effect is available from the test, CBO's discounted valuation analysis described in Chapter IV strongly suggests that basic VEAP without kickers has little effect on high-quality recruiting.

reason for this modest recruiting effect may be that the program requires an "up-front" contribution that substantially diminishes its value to a young person, even if it eventually provides some benefits.

CHANGES IN THE VEAP DESIGN AND ITS IMPLEMENTATION IN 1979 AND 1980

In response to these concerns, the Congress and DoD took steps to improve the program. In 1979 the dollar value of VEAP was increased through targeted supplemental payments, and the contribution schedule was made more flexible by broadening the dollar range of monthly allotments and permitting lump-sum contributions.

Use of Supplemental or "Kicker" Payments

The Army (and to a much lesser extent, the Navy) added supplemental contributions or "kickers" to the VEAP for various enlistment option programs. 9/ These initially ranged from $2,000 to $4,000, depending on the length of the enlistment term. Only high school graduates scoring at or above the 50th percentile on DoD's standardized entrance test, and enlisting for certain critical occupational specialties, were eligible for kickers. 10/ In 1980, the Army adopted the kicker approach nationwide with less restrictive options, but still required a high school diploma and above-average test scores.

In fiscal year 1981, the Army continued the use of kickers in conjunction with a more elaborate test of educational benefits mandated by the Defense Authorization Bill. A much-enhanced kicker (called "Ultra-VEAP") introduced in one of the three test areas, provided a maximum $12,000 supplemental payment for enlistment in selected occupations. An eligible recruit could accumulate a $20,100 education fund by contributing $2,700. A DoD-sponsored evaluation estimated that enlistment of high-quality

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9/ The 1977 VEAP legislation authorized use of kicker payments, but DoD did not begin using the device until 1979.

10/ See footnote 7 for a discussion of the effect kickers in the range of $2,000 to $4,000 may have had on Army high-quality recruiting.

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Army recruits increased by 10 percent (compared to a control group getting $2,000 to $6,000 in kickers). 11/

In fiscal year 1982, the Army began offering Ultra-VEAP on a nationwide basis to high-quality recruits enlisting in one of 72 occupations which cover about three-quarters of the total recruiting requirement. It appears that in 1982 the other three services will rely exclusively on basic VEAP without kickers as their educational benefit.

Statutory Changes in the VEAP Contribution Schedule

In fiscal year 1981, the Congress authorized two changes in the contribution schedule for VEAP participants. The range of monthly contributions was broadened to $25-$100, and lump-sum contributions were permitted. 12/ The total contribution, however, remained unchanged at $2,700, as did the basic two-for-one matching plan. The changes were intended in part as a response to criticisms that the contribution imposed a financial hardship on recruits, thus limiting their participation in the program.

STRENGTHS AND WEAKNESSES OF THE CURRENT VEAP

VEAP has been strengthened considerably since it was first introduced. Greater flexibility in the contribution schedule

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11/ For a discussion of the Rand results, see statement of Neil M. Singer before the Subcommittee on Military Personnel and Compensation, Committee on Armed Services, House of Representatives, 97:1, November 17, 1981. CBO's own estimate of Ultra-VEAP's high-quality recruiting effect, described in Chapter IV of this report, amounts to between 2 and 6 percent.

12/ The 1980 amendment (Public Law 96-466), which permitted lump-sum contributions up to the maximum of $2,700, could serve to postpone participation by those intending to use the benefits until they were at the point of active-duty separation. This added flexibility could thus lead to underestimates of the true participation rates.

should broaden participation and possibly enhance its recruiting appeal. The continued use of substantial kickers, which now more than triple the amount contributed by the government compared to the basic (without kicker) VEAP, should significantly increase high-quality recruiting. Moreover, targeting these kicker benefits on selected occupations tends to make this program a less costly recruiting incentive than some proposed noncontributory plans which would provide benefits under less restrictive enlistment criteria.

Yet there is still reason to be critical of VEAP. There is no evidence that the high dropout rate among contributors has abated. Moreover, only the Army offers the more generous VEAP with kickers, leaving the other three services with a basic VEAP that probably does little if anything to improve quality recruiting. This strategy should, however, provide the Army a competitive edge in meeting its relatively more difficult recruiting challenge, particularly in the light of concern that a uniform benefit available to all services could actually hurt Army recruiting. 13/ Finally, the current VEAP program must live with the disappointment engendered by its original version. For these and other reasons, there have been numerous proposals to replace VEAP with a new educational benefit program.

13/ This finding, based upon a Rand Corporation evaluation of the 1981 DoD educational benefits test, was presented in Congressional testimony by a former DoD official. See statement of Neil M. Singer.

CHAPTER III. PROPOSALS FOR A NEW PROGRAM: ISSUES AND OPTIONS TO CONSIDER

Concern over the quality of new recruits and dissatisfaction with the Veterans' Educational Assistance Program as originally conceived have produced a number of proposals for a new, more generous program. This chapter summarizes the main policy and design issues raised by these proposals and sets out four options as a framework within which to evaluate them.

MAIN FEATURES OF PROPOSED LEGISLATION

During the 96th Congress, 38 bills were introduced to modify or replace the current military and veteran educational assistance benefits. Half of them proposed improvements in the Vietnam-era GI Bill, a program available to most veterans and to a sizable share of active-duty personnel. 1/ Another quarter of the bills would have amended the current VEAP legislation or strengthened other educational benefits available to military personnel, such as in-service tuition assistance. The remaining bills would have replaced VEAP with an entirely new post-service educational benefits package.

The legislative momentum developed during the 96th Congress has continued into the 97th Congress. During the first session, six bills were introduced in the Senate and seven in the House (two of which are identical to the Senate bills) to provide for a new military educational benefits program. (Appendix A contains a synopsis of these bills.) Most of the bills are similar in form to the proposals introduced in the 96th Congress. The House

1/ As of January 1982, active-duty personnel with six or more years' service remain eligible to use Vietnam-era GI Bill benefits. This amounts to about 64 percent of the active force or 1.3 million servicemembers. Under current law, eligibility to use these earned benefits expires for all veterans and servicemembers on December 31, 1989. A number of bills have been introduced to eliminate or modify this termination date.

Committees on Veterans' Affairs and Armed Services have held extensive hearings on the subject of military educational benefits. The House Committee on Veterans' Affairs has reported out an amended version of a bill introduced by Chairman G.V. Montgomery (H.R. 1400), which is currently being considered by the House Committee on Armed Services. The Senate has yet to take formal action on any of its bills.

All 13 bills introduced to date in the 97th Congress call for a return to a noncontributory educational assistance program for active-duty personnel, in contrast to VEAP. Most of the bills would tie the size of benefits to length of service, including both active and reserve duty. Maximum basic benefits (excluding supplemental payments) would range from about $10,000 to $20,000. 2/ Some of the bills offer a tuition reimbursement plan plus a monthly stipend (an approach used under the World War II-era GI Bill).

A number of the bills propose supplemental benefits for service in selected skills considered critical by the Department of Defense. Eight of the thirteen bills would permit benefits to be transferred to a spouse and/or dependents after a specified period of active-duty service. In addition, two other bills--S. 25 (sponsored by Senator Armstrong) and S. 742 (sponsored by Senator Cohen)--include a contributory benefit plan for dependents of career-committed military personnel. Only one of the bills (H.R. 2399) indexes the future benefit amount to inflation.

PURPOSES OF PROPOSED LEGISLATION

Proponents of new educational benefits offer a wide variety of reasons for their support. Some feel that the Vietnam-era GI Bill should not have been terminated, and see enactment of

2/ By comparison, the Vietnam-era GI Bill now pays a maximum 45 months stipend with total benefits ranging from $15,390 for a single veteran to $20,880 for veterans with two dependents and $29 monthly for each additional dependent. (On average, veterans training under the GI Bill have one dependent, and thus can receive a maximum of $18,315 in benefits.) Under VEAP, the DoD pays a maximum $5,400 unless the veteran is eligible for a supplemental kicker payment, which now amounts to as much as $12,000 for qualified Army recruits.

of a new, noncontributory program as an important step toward restoring a traditional right to military personnel. 3/

Other supporters point to the need to induce more high-quality youths (particularly those with college aspirations) to enlist in the military. They cite evidence that those with above-average mental abilities and high school diplomas find educational benefits an appealing enlistment incentive. 4/ (CBO's estimates of the effects of educational benefits on recruiting and retention are presented in Chapter IV.) In an attempt to ensure that their proposals do not provide an incentive to leave military service once the benefits have been earned, proponents have recommended various offsetting provisions. These include cash-conversion privileges and the right to transfer the entitlement to a spouse and/or dependents in exchange for additional military service.

3/ Based on its historical availability and use, the GI Bill can be viewed as an important traditional military (and veteran) benefit. All honorably discharged veterans who entered active duty between 1944 and 1976 have been eligible for GI Bill benefits. About three million peacetime post-Korean veterans (those separated between 1955 and 1964) did not, however, receive such eligibility until enactment of the Vietnam-era GI Bill in 1966. Between 1944 and 1980, over 17 million veterans used GI Bill benefits costing the federal government over $50 billion. Office of the Comptroller, Reports and Statistics Branch, Veterans Administration, Historical Data on the Usage of Educational Benefits, 1944-1980 (May 1981).

4/ A 1979 DoD survey revealed that more than half the high school graduate recruits in the sample stated that they intended to continue their education at some point. Moreover, a majority of the high school graduate recruits cited "money for a college education" as a reason for enlisting. Source: Defense Manpower Data Center tabulation of the 1979 AFEES Survey (Form 3). Another National Longitudinal Survey of youth in 1979 found that active-duty male servicemembers aged 18 to 21 had substantially higher postsecondary educational aspirations than their full-time civilian employed counterparts. Source: Tabulations of the 1979 National Longitudinal Survey of Youth Labor Market Experiences, sponsored by the Departments of Labor and Defense.

Others point out that parents exert a significant influence over their children's career choices. These parents may view military service as a more attractive alternative for their children if it includes a generous educational benefits package. Parents (and perhaps the majority of the voting-age public) may prefer that their sons and daughters receive educational benefits as an enlistment incentive rather than cash bonuses of equivalent monetary value.

Some proponents note the numerous federal student aid programs that do not require military service, arguing that comparable educational benefits should be made available to military personnel. (Issues related to this are discussed in Appendix B.) Finally, a few may see a new military educational benefits program as a means of subsidizing postsecondary institutions that have come under financial pressure because of a declining college-age youth population and reduced federal aid to students. 5/

PROGRAM DESIGN CONSIDERATIONS

The discussion so far has posed a number of program design considerations. For example, should the program be contributory? The fact that VEAP is a contributory program has been cited by some as a reason for its low participation rate. On the other hand, the requirement that military personnel must make an explicit choice to participate will hold down the program's cost and may improve its effectiveness by ensuring that those who value it most highly receive the benefit.

Should the program have a tuition reimbursement feature? Those who favor this approach point out that the majority of

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5/ A statistical study of the factors affecting college attendance by adults (those 25 years or older) found the Vietnam-era GI Bill responsible for much of the growth in adult enrollments between 1955 and 1970. Vietnam-era veterans were three times as likely to attend college as their male nonveteran counterparts. Source: John Bishop and Jane Van Dyk, "Can Adults Be Hooked on College? Some Determinants of Adult College Attendance," Journal of Higher Education, vol. 48, no. 1 (January/February 1977). One-third of males attending college are over 25 (although two-thirds of these attend part-time). The median training age for veterans is about 29 years.

veterans receiving their education under the Vietnam-era GI Bill can afford to attend only low-cost public institutions, so that a tuition reimbursement plan would increase access to higher-cost (private) schools. 6/

What, if any, standards of eligibility should be imposed on participants? Some argue that to reduce costs, eligibility should be limited to enlisted personnel and benefits restricted to those serving in shortage skills and/or to high-quality recruits.

Should the military program be linked to other forms of student aid? For example, forgiveness of student loans in exchange for a commitment to a specified period of military service has already been authorized as part of a pilot program. Some have suggested that a veterans' preference be granted in federal domestic student aid programs.

How large should benefits be? Some would tie them to the cost of a college education. Others contend they should be sized so as to assist the services in meeting their recruiting goals, but designed to minimize the adverse effects on retention. Still others argue that benefits should be no larger than those now received by Vietnam-era veterans under the GI Bill.

How much flexibility should be permitted in using the benefits? In 1981, a pilot program was tested offering a cash-conversion privilege for reenlistment together with transferability of benefits to a spouse and/or dependents. Other proposals would permit benefit payments to be withdrawn on an accelerated schedule.

Finally, what agency should have funding responsibility for the program? This question is of particular concern to Executive Branch agencies and Congressional committees with jurisdiction over military and veterans' benefits. A program intended as a recruiting incentive would more logically fall within the Defense Department's jurisdiction, while one intended as a veterans' post-service readjustment benefit might more appropriately be the

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6/ This issue has been the subject of much past debate in the Congress. For analysis of the costs and effects of such a provision, see Congressional Budget Office, Veterans' Educational Benefits: Issues Concerning the GI Bill (October 1978), Chapter III.

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responsibility of the VA. The Department of Education might also play a role, given the extensive loan and grant programs in its jurisdiction and the elaborate administrative framework already in place to monitor these programs.

ILLUSTRATIVE EDUCATIONAL BENEFIT OPTIONS

The four options described here and evaluated in the next chapter illustrate in a systematic way the potential effects on recruiting, retention, and costs of variations in the design of an educational benefit plan. The four options make the benefit plan progressively more generous by adding to the current VEAP program features contained in the legislative proposals discussed in this chapter. Table 3 provides details of each option.

Option I. Continue the Current Policy of Basic VEAP for All Services With Supplemental Kicker Payments for Qualified Army Recruits

This option would continue VEAP in its present form. The basic contributory VEAP would remain available to all services and the Army would continue to offer a $12,000 kicker for enlistment into selected skills high school graduates in above-average test categories. This option responds to those who believe actions taken over the past three years to strengthen VEAP have improved its effectiveness as a recruiting incentive.

Option II Return to a Noncontributory Basic Benefit With Supplemental Payments for Qualified High School Graduates

Elimination of the servicemember's contribution requirement would represent the only difference in design between this program and the first option. Establishing a noncontributory benefit would respond to the criticism that the contributory requirement is inequitable because it discourages participation by those least able financially, especially married servicemembers. Under this option, DoD would provide benefits of $225 for each month of service up to a maximum of 36 months. Also, this option assumes that only the Army offers a supplemental monthly payment equivalent to the $12,000 kicker for high-quality recruits available under Option I,

TABLE 3. EDUCATIONAL BENEFIT OPTIONS

Option	Program Design Features	Maximum Accumulated Benefit Paid by DoD a/	Anticipated Monthly Stipend for Full-Time School Attendance
I. Contributory VEAP	DoD contributes $2 for each $1 a servicemember contributes. Maximum accumulation pays out $225 monthly for 36 months' schooling.	$ 5,400 b/	$ 150 c/
With kickers (current policy)	Adds $12,000 DoD contribution for Army high school graduate test category I-IIIA enlistments for 36 months' contributions.	17,400 b/	510 c/
II. Non contributory Plan	Each month's service provides one month's benefit at $225. Maximum 36 months.	8,100	225
With supplemental	Supplemental equivalent to kicker in Option I	20,100	560
III. Two-tier Noncontributory Plan	Same as Option II, except completion of six years' service doubles value of 36 months' basic benefit.	16,200	225/450
With supplemental	Same as Option II.	28,200	560/785
IV. Two-tier Noncontributory Plan With Benefit Transfer	Same as Option III, except ten years' service allows expenditure of earned benefit by spouse and college-age children. Must remain on active duty (or retire) during transfer.	16,200	225/450
With supplemental	Same as Option II.	28,200	560/785

a/ By comparison, the Vietnam-era GI Bill now provides a maximum earned benefit of about $18,300 (for the typical veteran with one dependent).

b/ Figures shown exclude $2,700 that must be contributed by plan participant to accumulate maximum benefit.

c/ Assumes member contributes $50 monthly for 20 months, and receives two-for-one matching funds from DoD, plus supplemental benefits if applicable. This represents the typical amount and length of participation by VEAP participants to date.

Option III. Provide a Two-Tier Noncontributory Benefit With Supplemental Payments for Qualified High School Graduates

This approach would respond to the concern that Options I and II provide an incentive to leave service once the benefits have been earned. Doubling the earned benefit to $450 monthly upon completion of six years' service might encourage some to reenlist. On the other hand, a larger benefit after six years might tend to induce subsequent separations.

Option IV. Provide a Two-Tier Noncontributory Benefit With Supplemental Payments and the Right to Transfer the Earned Benefit to Dependents

The benefit transfer feature of this option is favored by the military services and has been incorporated in most of the legislative proposals. Proponents argue that allowing a spouse or college-age children to use the earned benefits, provided the servicemember remains on active duty (or retires), would improve career retention and counter the incentive to separate once the benefits have been earned. The specific provision illustrated in this option permits benefit transfer after the tenth year of service, and requires him to remain on active duty (or retire) while the spouse and/or children expend the benefit. 7/

7/ The eligibility requirements for transferability in this option mirror those contained in H.R. 1400 (see Appendix A for additional details).

CHAPTER IV. EFFECTS OF THE EDUCATIONAL BENEFIT OPTIONS ON RECRUITING, RETENTION, AND COSTS

The options described in the previous chapter form the framework for a cost-effectiveness evaluation of alternative military educational benefit proposals. The analysis shows that an unrestricted noncontributory educational benefit like that of the Vietnam-era GI Bill would represent a very expensive way to improve quality recruiting. One approach which would hold down costs would be to target the benefit on difficult-to-recruit volunteers for service in much-needed skills. Moreover, an unrestricted noncontributory benefit might even be counterproductive if it led to more additional separations than additional enlistments induced by the benefits. This latter observation underscores the need to devise a program with incentives that limit the adverse consequences on career retention.

This chapter begins with a brief discussion of the methodology employed to analyze the four options. 1/ It then evaluates the benefits under each option and appraises the option's effects on Army recruiting and retention. Only Army enlisted recruiting and retention estimates are given in this report, although cost estimates are presented for all four services (enlisted and officer), with the Army displayed separately. This was done in order to concentrate on the options' effects on Army manpower, since the Army confronts the most difficult recruiting challenge.

METHOD USED TO MAKE ESTIMATES

This section provides a brief overview of the methods used in this report to estimate effects on recruiting, retention, and costs. The basic approach to assessing recruiting and retention effects was to "monetize" the benefits. That is, future educational benefits were converted to the equivalent of a one-time cash payment made now rather than in the future. The conversion not only reduced the maximum face value of future

1/ A forthcoming report will describe the methodologies and data sources used in this study.

educational benefits to reflect the normal preference for cash now rather than cash later, but also reduced it to reflect the recruits' uncertainty about the extent to which they will use the benefits. Once converted into its equivalent discounted cash value, the recruiting and retention effects of an educational benefit were estimated based on studies of the effects of pay on the supply of volunteers. The next sections discuss the method in more detail.

Recruiting

A growing body of research suggests that a generous educational benefit program can increase enlistments of high school graduates with above average aptitude test scores. This report employs a discount valuation method to convert the maximum dollar value of the benefit into its perceived cash-value equivalent at the time of enlistment or reenlistment. The valuation method incorporates not only a discount rate to reflect a preference for money now rather than later, but also a set of active-duty separation probabilities to predict the likely timing and use of benefits. 2/

Table 4 presents two estimates of the benefits' discounted values to a recruit at the point of enlistment. The low estimate assumes that the individual expects to expend only part of the earned benefits, at a rate and over a time period based upon historical experience for those eligible for the Vietnam-era GI Bill program; this experience reflects part-time attendance or attendance at a two-year school by many veterans. The higher discounted value assumes that all recruits anticipate using all their earned benefits within four years from separation. 3/

2/ One would not expect, for example, that a potential recruit would find equally attractive $5,000 cash at the time of enlistment and a deferred educational benefit paying $250 monthly for 20 months ($5,000 maximum). He would likely assign less value to the educational benefit.

3/ The discounted values used to calculate recruiting increases are not reduced to reflect any effects of nonmilitary student aid. This may mean that CBO's military recruiting increases are overstated to the extent that such nonmilitary benefits offset this enlistment effect. A review of past statistics

TABLE 4. DISCOUNTED VALUATIONS OF FOUR EDUCATIONAL BENEFIT OPTIONS (In dollars)

Options		Maximum Accumulated Benefit Paid by DoD	Discounted Value At Point of Enlistment		Discounted Separation Incentive Value At Various Reenlistment Zones a/		
			Low	High	Zone A	Zone B	Zone C
			Without Supplemental Payment				
I.	Contributory VEAP (current policy)	5,400	90	770	-180	-200	-170
II.	Noncontributory Plan	8,100	530	2,030	-1,170	-1,110	-950
III.	Two-tier Noncontributory Plan	16,200	620	2,440	-780	-2,190	-1,900
IV.	Two-tier Noncontributory Plan With Benefit Transfer	16,200	680	2,810	-70	-450	880
			With Supplemental Payment				
I.	Contributory VEAP (current policy)	17,400	940	3,620	-1,600	-1,500	-1,300
II.	Noncontributory Plan	20,100	1,310	5,030	-2,920	-2,720	-2,360
III.	Two-tier Noncontributory Plan	28,200	1,400	5,440	-2,520	-3,820	-3,310
IV.	Two-tier Noncontributory Plan With Benefit Transfer	28,200	1,530	6,100	-1,120	-360	2,100

NOTE: Army retention data are used to estimate the discounted valuations; results for the other services will differ somewhat depending on their specific retention patterns.

a/ Zones are year-of-service groupings in which reenlistments occur. Zone A includes reenlistments by servicemembers with 3 to 6 years of service; Zone B, those with 7 through 10 years of service; and Zone C, those with 11 through 14 years of service.

The discounted valuation at the time of enlistment is translated into a relative increase in compensation. From this an estimated enlistment response can be calculated based on existing studies of enlistment supply. 4/

Retention

A similar method is used to analyze the effects on retention. The incentive to separate (equivalent to a negative reenlistment bonus) is calculated for various career reenlistment zones. This assumes that a servicemember evaluating the prospects of reenlistment takes into account not only the discounted valuation of the educational benefit should he decide to separate, but also the discounted valuation should he reenlist instead. (All these calculations assume that the individual expects to expend a fraction of earned benefits equivalent to the historical pattern under the Vietnam-era GI Bill.) 5/ The difference between the two

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suggests, however, that the rapid growth of domestic student aid in the 1970s did not necessarily cut down on military recruiting (see Appendix B). This conclusion lends support for the exclusion of such effects from these estimates. Moreover, ignoring the benefits entirely should ensure that CBO does not understate recruiting in the future, given the cutbacks in nonmilitary educational benefits that are being proposed.

4/ For example, assume the discounted expected value of the benefit at time of enlistment amounted to $5,000 and regular military compensation when discounted at the same rate over the same expected service life amounted to $35,000. The percentage increase in high-quality, supply-constrained enlistments would be calculated as follows: ($5,000/35,000) x 100 x E, where E represents the factor relating the percentage increase in compensation to the percentage increase in enlistments. Thus, if E equals 1.5, a 21.4 percent increase in quality enlistments results in the above example. A more formal mathematical explanation of this approach will be available in a forthcoming technical report.

5/ The reader should note that, like the discounted enlistment values shown in Table 4, both low and high discounted separation incentive values could have been provided. It was decided, however, to display and use only the lower discounted

represents the net incentive to separate. These incentives to separate are used to revise the reenlistment rates; the methods are based on studies of the effects of reenlistment bonuses.

Costs

A statistical model is employed to estimate benefit utilization and subsequent costs. The model uses historical relationships between a set of economic and policy variables and Vietnam-era GI Bill utilization. Both the likelihood and amount of benefit expenditure by an eligible veteran in any given year have been found to depend on the characteristics of the veteran (such as predischarge education, aptitude, race, marital status, and number of years since discharge), the real level of the monthly benefit (that is, after adjusting for inflation), the level of unemployment in the economy, and the availability of training opportunities (represented by the percentage of students enrolled in schools offering two-year degrees).

An inventory flow model is used to calculate the annual number of eligible separations under each of the options. This model applies a set of retention rates (adjusted for the options' effects on retention) to the current enlisted strength and computes the resulting separations as well as the enlistments required to sustain that strength over time. These separations are combined with output from the statistical regression analyses on veteran benefit utilization to estimate the resulting educational benefit costs associated with this flow of separations.

To estimate the costs of allowing servicemembers to transfer their benefits to a spouse and/or dependents, military and civilian survey data are used to calculate the population of eligible spouses and college-age dependents of active-duty and retired military personnel with sufficient service to transfer

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separation incentive values on the premise that career servicemembers have a more realistic appraisal of their probable use of benefits and that this appraisal would mirror the historical Vietnam-era GI Bill pattern for veterans with several years' active service. Had the higher values been used, substantially more separations would have been projected. This would significantly lower the effectiveness estimated for the proposals.

their benefits. The costing methodology also incorporates a set of demographic-specific college attendance rates to estimate the potential number of eligible beneficiaries expected to utilize the servicemembers' benefit.

INDEXING THE BENEFIT TO KEEP PACE WITH INFLATION

The estimates of cost and manpower effects for the options assume that benefit levels would be indexed to keep pace with inflation. 6/ Whether or not a program contains an indexing provision affects both the long-run costs and the recruiting potential of any program. If the noncontributory options studied here were not indexed to inflation, their 1995 cost would be about half the estimates shown in Table 4. While not indexing benefits would save money, it would substantially erode their recruiting effectiveness over the long run. 7/

EVALUATING THE OPTIONS

Option I. Continue the Existing Contributory VEAP Program

Description. This option would continue the educational benefit program now in force. The basic contributory VEAP would remain available to all services. The Army, however, would continue to offer a $12,000 kicker to high school graduates of above-average aptitude enlisting in selected skills (see Table 3 in Chapter III).

Value of the Program to the Individual. The maximum amount that the government could contribute to an individual under Option I would be $17,400 (see Table 4). This includes the

6/ In Option I, the maximum contribution, the permissible range of contributions, and the kicker value would be indexed.

7/ Only one of the 13 educational bills introduced during the 97th Congress contain a provision indexing benefits. However, the Congress in the past has raised benefit levels for the Vietnam-era GI Bill in response to inflation. If past legislative practices can be used as a guide, benefit levels under any new program are likely to be increased in response to inflation whether or not they are indexed.

maximum supplemental payment or kicker of $12,000 and full use of all benefits.

The estimate of $17,400 may, however, greatly overstate the value of the program to someone considering entering the military. A more realistic estimate requires discounting the benefits to reflect the time-lag before they can be expended, and other limitations. Discounted values for Option I range from only $90, assuming no supplemental payment and the use of only part of the benefits, up to $3,620 if a person receives the maximum supplemental payment and uses all of the benefits (see Table 4). These discounted estimates are used to calculate the recruiting effects discussed below.

The value of Option I can also be calculated for servicemembers at various points in their military careers. The value of educational benefits to a careerist is the difference between the worth of the benefits if he leaves the military immediately and their worth if he remains in the military but retains the right to use the benefits eventually. Generally, this difference is negative, reflecting what the prospective careerist gives up should he decide to reenlist and forgo immediate use of the educational benefits. Thus the benefits create an incentive to separate. In the case of Option I, for example, this incentive amounts to about $1,600 for a person with between three and six years' service who earns a supplemental payment (see Table 4). 8/ This value diminishes gradually over time, reflecting the decreased likelihood of use. 9/

8/ To put these separation incentive values in perspective, consider that the average Army bonus paid upon a first reenlistment (Zone A) amounted to about $3,500 in fiscal year 1981. Just over half the Army's Zone A reenlistments received such a bonus. The analysis suggests that offering an additional $1,600 in cash for a reenlistment should be enough to neutralize the separation incentive effect of the earned educational benefit on those in Zone A.

9/ Moreover, the same separation incentive value has a diminishing effect with increasing time in service. Because of the military retirement system and progressively greater pay for additional service, a $1,600 separation value has a considerably smaller effect on reenlistment plans at the twelfth year of service than at the third year.

Effects on Recruiting and Retention. The CBO estimates suggest that Option I would result in a net increase of between 0 and 4 percent in the number of high-quality Army recruits (that is, recruits holding high school diplomas who score in the upper half of all recruits on the tests administered at the time of entrance to the service). The estimated increase is in comparision to what would occur if 1981 educational benefits were continued. (See Table 5 for results.) The estimate of zero change would mean that prospective recruits anticipate expending their earned benefits at a rate practically identical to experience under the Vietnam-era GI Bill. 10/ The higher estimate of 4 percent would mean that prospective recruits expect to use all their benefits.

The net increase in numbers of high-quality recruits under Option I is the difference between the actual increase and the increased recruiting requirement necessary to offset the higher number of servicemembers induced to separate to expend their earned educational benefits. After six to ten years, when everyone has had enough time to become eligible for benefits, these increased separations would drive up demand for new recruits by about 2 percent, resulting in the net improvement of between 0 and 4 percent.

Option I could provide the Army a modest hedge against the possibility of adverse developments in enlisted recruiting in the 1980s. As Chapter I discussed, such a modest hedge may be all that is needed. If present compensation and personnel policies continue, the Army appears likely to be able to meet its numerical goals for recruits and to achieve at least the minimum standards for recruit quality mandated by the Congress. This would not be the case, however, if a substantial increase in Army strength became necessary.

10/ Data on Vietnam-era GI Bill training veterans reveal a disproportionate number attending school part-time rather than full-time and attending two-year rather than four-year institutions. Vietnam-era veterans who chose to use their GI Bill benefits used an average of less than 20 full-time equivalent months out of the 45-month maximum earned benefit over the ten-year eligibility period. There is, however, a wide dispersion in probable use around this mean value. The lower discounted valuation at the point of enlistment, and the valuation later used in discussion of reenlistment, employ this Vietnam-era GI Bill expenditure pattern.

TABLE 5. ESTIMATED EFFECTS OF FOUR EDUCATIONAL BENEFIT OPTIONS ON ARMY RECRUITING AND RETENTION RELATIVE TO LEVELS UNDER 1981 PROGRAMS a/

Options	Percentage Increase in High-Quality Accessions		Less the Percentage Change in High-Quality Recruiting Requirements b/	Net Percentage Change in High-Quality Recruiting	
	Low	High		Low	High
I. Contributory VEAP	2	6	2	0	4
II. Noncontributory Plan	3	11	5	-2	6
III. Two-tier Noncontributory Plan	3	12	5	-2	7
IV. Two-tier Noncontributory Plan With Benefit Transfer	4	14	0	4	14

a/ Estimates take into account the effect of the Army-VEAP kicker program (less generous than Option I) available in fiscal year 1981 and thus show the net percentage improvement in Army high-quality recruiting when the options are chosen as substitutes. CBO estimated that in the fiscal year 1981 test program the control cell (one-half the nation) for the Army, which received VEAP with kickers averaging $4,800, produced a 1.5 and 6.5 percent increase in high-quality recruits in the low and high estimates, respectively. The steady-state adjustment in recruiting requirements attributed to the vested benefit's separation incentive amounted to 1.7 percent. These figures were deducted to yield the values shown on this table.

b/ These figures represent increases in high-quality recruiting necessary to offset the additional high-quality separations attributed to the options (with supplemental). The estimates assume that enough time has passed so that all persons making reenlistment decisions are eligible for the educational benefits.

The basic VEAP (without kickers) available under Option I offers very little recruiting improvement. Thus, the other services can expect little recruiting benefit from Option I unless they also employ kickers. The option as presently structured would give the Army a recruiting advantage over the other services in educational benefits, but the program also maintains sufficient flexibility to allow the use of kickers by the other services should the need arise.

Effects on Costs. Total costs over the next few years would be very small under Option I, since there would be few veteran beneficiaries. Beyond the year 2000, however, it would result in annual expenditures of about $140 million in 1983 dollars (see Table 6). Most of this would be the cost of training veterans who had earned the supplemental benefits; about 25 percent would go to those who had earned only basic benefits. Since the option assumes that only the Army employs the kickers, about 80 percent of the cost of Option I can be attributed to former Army personnel. The cost for veterans using only basic benefits would be small because, as Chapter II noted, participation among those (including officers) receiving only the basic benefits would be low.

Option I would also be relatively low in cost per additional high-quality recruit induced to enlist because of the program. That cost would be about $45,000, or on average less than one-third the cost of the other options evaluated in this study (see Table 7). 11/ The costs are relatively low under Option I because most of the benefits are targeted on those high-quality recruits in short supply. As the next chapter points out, this option may also compare favorably with other recruiting incentives, primarily because of its highly targeted nature.

Pros and Cons for Option I. Continuing VEAP at present kicker levels, as Option I does, would be by far the least expensive of the educational benefit programs evaluated in this report and also the most cost-effective. Relative to fiscal year 1981 experience, it provides a modest increase in the percentage of Army high-quality recruits. It could thus provi the hedge the

11/ The cost per added recruit is much higher than the amount paid to any one recruit. This is because benefits must be paid to all recruits, even though some would have enlisted in the Army anyway.

TABLE 6. ESTIMATED POST-SERVICE VETERAN COST OF FOUR EDUCATIONAL BENEFIT OPTIONS WHEN FULLY INDEXED TO INFLATION (In millions of fiscal year 1983 dollars) a/

Option	Beneficiaries	Fiscal Years 1985	1990	1995	Steady-State b/
I. Contributory VEAP	Enlisted				
	Army HSDG I-IIIA c/	d/	59	82	102
	Army Other	d/	4	6	8
	Other services	d/	13	20	28
	Officers				
	Army	0	0	0	0
	Other services	0	0	0	0
	Total	1	76	108	139
II. Noncontributory Plan	Enlisted				
	Army HSDG I-IIIA c/	1	150	227	237
	Army Other	d/	51	97	105
	Other services	1	179	292	313
	Officers				
	Army	d/	13	21	22
	Other services	d/	26	41	43
	Total	2	419	678	720
III. Two-tier Noncontributory Plan	Enlisted				
	Army HSDG I-IIIA c/	1	160	284	316
	Army Other	d/	64	148	171
	Other services	1	212	429	482
	Officers				
	Army	d/	18	40	45
	Other services	d/	33	70	80
	Total	2	487	970	1,093
IV. Two-tier Noncontributory Plan With Benefit Transfer	Enlisted				
	Army HSDG I-IIIA c/	1	219	342	354
	Army Other	d/	120	221	241
	Other services	1	341	590	634
	Officers				
	Army	d/	57	74	67
	Other services	d/	105	136	120
	Total	2	844	1,362	1,417
	(Share Due to Transfer)	(0)	(383)	(502)	(473)

a/ Cost estimates assume no in-service use. No costs occur prior to fiscal year 1985, assuming a fiscal year 1983 implementation date and a minimum requirement of two years' service.

b/ Steady-state refers to the point at which maximum annual costs occur (except for transferability). Option II reaches steady-state by 1996, Options III and IV by 1999, and Option I beyond the year 2000.

c/ Refers to Army high school diploma graduates in above-average test categories.

d/ Less than $0.5 million.

TABLE 7. ESTIMATED MANPOWER AND COST EFFECTS OF FOUR EDUCATIONAL BENEFIT OPTIONS (Costs in fiscal year 1983 dollars)

Option	Percent Improvement of High-Quality Volunteers a/	Steady-State Costs (in millions of dollars) b/ DoD Total	Steady-State Costs (in millions of dollars) b/ Army Enlisted Only	Cost per Additional Army High-Quality Enlistment Attributable to the Option c/
I. Contributory VEAP	4	139	110	45,000
II. Noncontributory Plan	6	720	342	160,000
III. Two tier Noncontributory Plan	7	1,093	487	200,000
IV. Two-tier Noncontributory Plan With Benefit Transfer	14	1,417	596	120,000

a/ Refers to percentage increases (the higher estimates shown in Table 5) in Army high school graduate test category I-IIIA enlistments when offered the kicker or supplemental benefit. Figures adjusted downward to reflect increased turnover in this high-quality group once vested in the option's benefit.

b/ Total costs based on participation by all four services (including officers) but only Army high-quality recruits receiving the kicker or supplemental.

c/ Includes only steady-state Army enlisted costs for each option shown in Table 4 (less the corresponding cost of the current program).

Army may need if minor recruiting problems develop in the 1980s. Finally, Option I has the advantage of being an existing program; its continuation would be legislatively and administratively simpler than creation of a new program.

Option I would not, however, provide the substantial increase in high-quality recruits that could be needed if the Congress increases military personnel strengths or major recruiting problems develop. Also, it would not eliminate the contributory feature of the current educational benefits program.

Option II. Implement a Noncontributory Program

Description. This option would provide a monthly benefit of $225 for each month of service, up to a maximum of 36 months. The maximum benefit would thus be the same as under Option I, but no contribution would be required by the servicemember. Also, this option assumes that only the Army offers a supplemental monthly benefit equivalent to the $12,000 kicker for high-quality recruits available under Option I.

The Value of the Program to the Individual. Under this noncontributory plan, a servicemember could earn a maximum $8,100 benefit or, if eligible for supplemental payments, a $20,100 benefit. The $2,700 increase in maximum benefits represents the contributory portion under Option I no longer required under this plan. Its perceived value by a recruit considering enlistment could range from $530 without supplemental payment to $5,030 with. The low discounted valuations assume that the recruit expects to use the benefits at rates comparable to those observed for the Vietnam-era GI Bill. The high discounted valuations assume that a recruit anticipates using all his earned benefits when a veteran (see Table 4).

Unfortunately, larger earned benefits also generate a greater incentive to separate. Table 4 shows that recruits approaching their first reenlistment effectively give up $1,170 worth of earned benefits by deciding to reenlist when no supplemental has been earned and give up $2,920 if they have earned a supplemental benefit. As in Option I, these discounted incentive values to separate diminish gradually the longer a servicemember remains on active duty.

Effects on Recruiting and Retention. By converting the discounted values at the point of enlistment (shown in Table 4)

into an overall enlistment response, CBO estimates that high-quality Army recruiting might improve as little as 3 percent or as much as 11 percent (Table 5). Once these individuals become vested in the benefit, higher rates of separation increase the recruiting requirement by 5 percent. When coupled with the lower estimate of recruiting improvement, this increase in requirements produces a net deficit of about 2 percent in overall high-quality recruiting performance when compared to what would occur if the fiscal year 1981 program (contributory VEAP with moderate kickers) was continued. If the higher recruiting estimate prevails, however, overall high-quality recruiting performance would improve by about 6 percent after taking into account the increase in separations.

Effects on Costs. CBO estimates the costs under Option II would reach a maximum of $720 million (in constant fiscal year 1983 dollars) by fiscal year 1996. Costs are low in the early years of the program, primarily because of the period of time required for servicemembers to vest in the program. Even though only Army high-quality servicemembers receive the supplemental payment, they account for about one-third of the option's cost.

As Table 7 shows, even under the higher recruiting performance estimate, the cost per additional high-quality Army enlistment amounts to $160,000. This very large estimate occurs because the program would produce costs (in steady-state) of over $340 million in veteran training benefits on behalf of all Army enlisted personnel in order to attract no more than 1,800 additional high-quality volunteers. The vast majority of Army recruits would have enlisted without the program, but after earning the benefits many would use them.

Pros and Cons for Option II. When compared to the first option, this noncontributory plan offers potential for a more significant improvement in recruiting. Adopting a noncontributory plan would also respond to critics who contend that the contributory requirement of VEAP fosters inequitable access to the program by discouraging participation among those least able financially, especially married servicemembers. This option would also help recruiting in all four services, rather than focusing only on Army high-quality recruits eligible for the supplemental benefit.

These advantages, however, come at a much higher cost and a greater recruiting risk. Because separations attributed to vesting in the benefit would be much higher under this program,

it could be counterproductive for high-quality recruiting, especially in the Army. The extremely high cost per additional Army high-quality enlistment ($160,000) shows how expensive a noncontributory plan available to all could be as a recruiting device, even with some targeting through supplemental payments.

Option III. Adopt a Two-Tier Noncontributory Program

Description. By doubling the earned benefit to $450 monthly upon completion of six years' service, this approach responds to the concern over the previous option's tendency to increase separations once servicemembers vest in the benefit. The option also contains supplemental payments for high-quality recruits equivalent to those available in the previous two options. It does not, however, double the supplemental payment upon completion of six years' service.

Value of the Program to the Individual. For those servicemembers completing six years' service, the maximum earned benefit amounts to $16,200 under the basic plan and $28,200 for those eligible for the $12,000 supplemental payment. Despite the doubling of the basic benefits (not the supplemental), the discounted values at the point of enlistment increase by only about 7 percent for those receiving a supplemental benefit and 17 percent for those receiving just the basic benefit, compared to Option II. The relatively small improvement in these values occurs because, in most cases, the larger benefit remains contingent upon completion of a term of service and reenlistment for a second term. Many enlistees may not plan on reenlistment. Furthermore, many of those who do reenlist can expect to complete a career in the military and hence will place a low valuation on post-service educational benefits, which will be useful to them only after retirement. 12/

The prospect of doubling the basic benefit after six years' service has only a modest effect during the period covering the initial reenlistments (Zone A) in reducing the incentive value to separate. The small size of this effect can be attributed to the

12/ CBO estimates that while only 13 percent of all Army recruits can expect to reach retirement at 20 years' service, more than 40 percent of those who complete 6 years' service can expect to do so.

long time expected to elapse between the decision to reenlist and the use of any second-tier benefits. Reenlistment postpones use of the benefits for at least three years and, as noted above, many of those reenlisting will use the benefits only after retirement, if at all. Doubling the benefit also compounds the retention problem after six years' service. In subsequent career reenlistment zones, the larger earned benefit provides a stronger incentive to separate.

Effects on Recruiting and Retention. When compared to Option II, doubling the benefits upon completion of six years' service provides only a small additional improvement in high-quality recruiting. More importantly, for reasons just noted, this feature fails to reduce overall separations attributed to achieving eligibility for the benefit, at least in the Army. The resulting 5 percent increase in high-quality Army recruiting requirements is about the same as under Option II (see Table 5). Thus the net improvement in high-quality recruiting after accounting for the increased separations ranges between -2 percent and 7 percent, an overall result only slightly better than Option II.

Effects on Costs. Not only does the second-tier benefit feature provide little improvement in recruiting (at least for the Army) but it also raises costs substantially. CBO estimates the cost under this program would reach a maximum of $1.1 billion by fiscal year 1999. All of the $370 million increase in steady-state costs over Option II (see Table 6) can be attributed to the second-tier benefit feature of this option. Doubling basic benefits for completion of six years' service increases costs by over 50 percent, because of higher average costs per training veteran and the larger number of veterans induced to train because of higher benefits.

Pros and Cons for Option III. Doubling the basic benefits upon completion of six years' service would provide only a slight increase in high-quality recruiting (at least in the Army), and it would fail to achieve an overall reduction in the number of additional separations attributed to vesting in the benefit. The slight reduction in separations at Zone A would just suffice to offset the larger number of separations in later reenlistment zones after servicemembers passed the six-year point and became vested in the larger benefit. High-quality recruiting performance (after adjusting for separations) would be little better than under Option II, and this option would cost about 50 percent more. Taking all these factors into account, Table 7 shows a cost of $200,000 per additional Army high-quality volunteer compared to

$160,000 under Option II. The addition of a second tier would not prove cost-effective for the Army. Other services, however, may find the program somewhat more attractive--especially the Air Force and the Navy which offer a six-year enlistment.

Option IV. Install a Two-Tier Noncontributory Plan With Transfer of Earned Benefits to Dependents

Description. This option contains all the features of Option III, and as an additional retention device permits servicemembers to transfer their benefits. The spouse and college-age children of any servicemember with ten or more years' active duty could expend the earned benefit, provided the servicemember remained on active duty or had retired. The objective of this provision would be to neutralize the educational benefit's inherent incentive to separate.

Value of the Program to the Individual. The maximum amount a servicemember can earn under this program is the same as in Option III. But the transferability feature increases the discounted value at the point of enlistment by about 10 percent over Option III (see Table 4). More significant is the substantial effect this provision has on the incentive values to separate. The negative values in Zones A and B are in most cases substantially smaller than those for the other three options. Furthermore, for servicemembers with more than ten years' service (Zone C) there is a positive incentive to stay. Thus transferability produces slightly fewer separations than would occur under educational benefit levels in fiscal year 1981.

Effects on Recruiting and Retention. As Table 5 shows, the benefit transfer feature provides a modest improvement in high-quality recruiting; but more important, it offsets the increased number of separations attributable to vesting in this option's benefit. In fact, no more separations would eventually occur under this option than are occurring now. Taking separations into account, this option provides a net high-quality recruiting improvement of 4 percent under the low estimate and 14 percent under the high estimate. Thus, transferability more than doubles the maximum net improvement in high-quality recruiting as compared to Option III.

Effects on Costs. Transferability serves to counter the increase in high-quality separations attributed to vesting in the benefit, but it does so at considerable cost. Table 6 shows

that steady-state costs would increase by about $320 million, or about 30 percent more than under Option III. 13/ Despite this large increase in costs, Table 7 shows that, at $120,000 per high-quality volunteer, the program is significantly more cost-effective than Options II or III. None of these options, however, can compare with Option I (contributory VEAP with kickers), which has by far the lowest cost per additional high-quality volunteer.

OTHER METHODS TO REDUCE SEPARATIONS

Should the Congress put in place a noncontributory educational benefit available to all servicemembers, the recruiting performance and cost-effectiveness improvements under Option IV underscore the importance of addressing the incentive to separate. While a transferability feature could offset the increased losses caused by servicemembers vesting in the educational benefit, less expensive alternatives may be available.

Permit Cash-Out of Earned Benefits

Instead of transferability, the Congress could allow a vested servicemember who reenlists to forgo all his earned educational entitlement in return for a portion of its cash value. This "cash-out" might be a more cost-effective way of neutralizing the separation incentive of the educational benefit. If servicemembers were permitted to receive 25 percent of the face value of their earned educational benefit in cash, such a feature could more than offset the separation incentive offered by a two-tiered benefit.

13/ The actual steady-state cost of the benefit transfer provision shown parenthetically in Table 6 amounted to $473 million. The lower net cost difference between Options III and IV of $324 million can be attributed to the competition for funds among family members that reduces veteran use in favor of use by dependents. Also, this option generates fewer separations than Option III and thus reduces the number of veterans available to expend their earned benefits. To estimate these costs, CBO developed a projection model based on demographic surveys to analyze the likely cost and dependent utilization of transferred benefits. Documentation on this model will be available in a forthcoming technical report supporting CBO's modeling and research in this area.

The addition of transferability to the two-tiered benefit offered in Option III increased the steady-state Army enlisted cost by $108 million. A 25 percent cash-out provision would cost (also in steady-state) about $125 million annually in payments to Army reenlistees. This cost, however, would be largely offset by the estimated $110 million annual savings in unexpended educational benefits forgone by those electing to cash-out. Thus, the net cost of this provision would be less than $15 million, far below the $108 million transferability cost. 14/

Pay Additional Reenlistment Bonuses

Another way to prevent an increase in losses would be to increase reenlistment bonuses. This approach, however, might prove more expensive than the cash-out provision described above. If the Army offered an additional $5,000 cash bonus to all those choosing their first reenlistment (Zone A), enough additional reenlistments would be generated to offset the separations resulting from the earned educational benefits under Option III. Such a policy would cost an additional $150 million annually in Army reenlistment bonuses. It would also save about $30 million annually in unexpended educational benefits because, with lower turnover, there would be fewer veterans eligible to use the benefit. Thus, the net cost of such a policy would be about $120 million annually, which is higher than the net cost of a 25 percent cash-out ($15 million) and larger than the transferability provision included in Option IV ($108 million). While costs could be higher under this approach, reenlistment bonuses may offer more flexibility than other approaches in targeting the benefits so as to retain the most desirable career servicemembers. For example, the Army may find its concern about retention focused primarily on

14/ The near-term costs of this cash-out provision will, however, be substantially higher than the steady-state estimate and also larger than near-term transferability costs. If, as these options assume, all servicemembers (not just new recruits) can earn the benefit and cash-out upon reenlistment, there will be a surge in costs between the fourth and tenth year after enactment of the bill. Rather than $125 million in cash-out payments, costs could reach a maximum $250 million during this transition to steady-state. These larger amounts would still be largely offset by eventual savings in unexpended educational benefits.

those former high-quality recruits who earned a supplemental benefit and only offer them the $5,000 reenlistment bonus. This much more selective policy would reduce by more than half the cost of the reenlistment bonus program designed above, making it a cheaper retention device than the transferability provision in Option IV.

ADOPTING AN ACCRUAL COST ACCOUNTING APPROACH FOR EDUCATIONAL BENEFITS

Because educational benefits represent a deferred benefit just as retirement benefits do, the full cost of any program would not appear in the budget until many years in the future under the current pay-as-you-go system of accounting. For instance, assuming implementation in fiscal year 1983, none of the educational benefit options described in this report would incur costs until fiscal year 1985, or approach maximum outlays until at least ten years later. This offers a temptation to disregard costs during the decisionmaking process.

An accrual budgeting approach, on the other hand, would establish a funding mechanism that explicitly recognized in the current budget the liability incurred for future expenditure on education benefits by today's military personnel. While no costs would occur in fiscal year 1983 on a pay-as-you-go basis, the charge to DoD under an accrual accounting system would approximate $120 million for Option I, ranging up to $1.0 billion for Option IV. 15/

15/ This fiscal year 1983 charge amounts to a lump-sum payment based upon the number of recruits enlisted and their eligibility for supplemental or kicker payments. For example, under Option II, the accrual charge per high-quality recruit eligible for the supplemental payment amounts to $6,100, and to $2,000 for those not eligible for the supplemental. A one percent real discount rate was employed to compute the accrual charge. These sums, however, do not include any unfunded liability resulting from initially permitting all servicemember (not just new recruits) to vest in the program.

CHAPTER V. OTHER RELATED BUDGET ISSUES

This concluding chapter examines several issues not covered in the preceding chapter that have arisen during deliberations over new educational benefit proposals. It notes that if the services, especially the Army, need additional incentives as a hedge against the prospect of future recruiting difficulties, more cost-effective means than an educational benefit may be available. However, if the Congress decides to enact a noncontributory educational program, targeting the benefits on better-qualified recruits in short supply would improve the program's cost-effectiveness. Other issues discussed in this chapter include the use of educational benefits to improve reserve recruiting, and the effects of any new educational program on servicemembers who are already vested in other programs (VEAP and the Vietnam-era GI Bill).

COST-EFFECTIVENESS OF EDUCATIONAL BENEFIT PROPOSALS COMPARED WITH THAT OF OTHER RECRUITING INCENTIVES

Concern over the potentially high cost of any new educational benefit program has prompted some within the defense community to ask whether less expensive means to improve recruiting exist. This concern appears to be especially relevant in light of findings in Chapter I which suggest that any future recruiting difficulties are likely to be selective. Table 8 shows CBO's estimate of the additional cost per high-quality volunteer of the educational benefit options depicted in Chapter IV (Table 7), and compares them with several alternatives: an expansion of the Army's recruiter force; increased enlistment bonuses; and an increase in basic pay for all military personnel.

Expanding the Recruiter Force

Statistical studies on volunteer enlistments indicate that an expansion in the Army recruiter force would improve high-quality recruiting. Moreover, the data in Table 8 suggest this approach would prove more cost-effective than the other

TABLE 8. COST-EFFECTIVENESS OF THE EDUCATIONAL BENEFIT OPTIONS COMPARED TO THAT OF OTHER RECRUITING METHODS

Incentive Programs	Cost per Additional Army Male High School Graduate in Test Categories I-IIIA
Larger Army Recruiter Force	22,000
Increased Army Enlistment Bonus	35,000
Employ Educational Benefits a/	
Option I	45,000
Option II	160,000
Option III	200,000
Option IV	120,000
Increase in Basic Pay	200,000

a/ See Chapter IV for an explanation of how these cost-effectiveness measures were derived.

programs analyzed. 1/ The cost estimate of $22,000 per additional high-quality recruit was derived by dividing the estimated production of an additional recruiter into the cost of fielding that

1/ Several econometric studies have developed estimates of the relationship between changes in production recruiters and enlistment supply. For the Army, these recruiter elasticities generally range between 0.2 and 0.5. See Lawrence Goldberg, "Summary of the Navy Enlisted Supply Study," CNA memorandum 81-1158, Center for Naval Analyses (July 22, 1981); Daniel Huck and Jerry Allen, Sustaining Volunteer Enlistments in the Decade Ahead: the Effect of Declining Population and Unemployment, General Research Corporation (September 1977); and Richard L. Fernandez, Forecasting Enlisted Supply: Projections for 1979-1980, The Rand Corporation (September 1979).

recruiter. CBO estimates that it costs about $40,000 annually to field one recruiter (not including an accrual charge for retirement). 2/ CBO further estimates that adding one more Army recruiter to the force produces an additional 1.8 high-quality recruits annually. Dividing this marginal production rate into the annual cost of fielding a recruiter yields $22,000 per high-quality volunteer. 3/

While expanding the recruiter force appeats to be a cost-effective way to hedge against the prospect of future recruiting difficulties, this conclusion is subject to certain qualifications. Expanding the recruiter force would be unlikely to result in a proportional increase in high-quality recruits. Statistical studies of enlistment supply which include a recruiter variable suggest that, for each percentage point increase in the number of Army recruiters, the supply of high-quality male enlistments would increase between 0.2 and 0.5 percent. 4/ Doubling the Army production recruiter force, now numbering about 5,200 personnel, might, for example, increase high-quality enlistments between 20 and 50 percent. Even this estimated range of increase may be somewhat optimistic. 5/

2/ The cost to field the recruiter does not, however, include additional costs associated with diverting career military personnel to the recruiting function.

3/ The 1.8 marginal product for recruiters was estimated as follows. Based upon the work by Goldberg cited in footnote 1, a 10 percent increase in Army production recruiters (520) was assumed to generate a 3 percent increase in male high school graduates with above-average test scores (945 recruits), or 1.8 high-quality recruits per recruiter.

4/ See footnote 1 in this chapter.

5/ In theory at least, the expansion of production recruiters should be subject to diminishing marginal returns. One should not expect the elasticity of supply with respect to recruiters to remain constant across a wide range of recruiter force sizes. Under this hypothesis, a doubling of the recruiter force would probably produce recruit supply increases below the 20 to 50 percent range.

Expanding the Enlistment Bonus Program

At approximately $35,000 per additional high-quality recruit, expanding the cash enlistment bonus program compares favorably in cost-effectiveness with an increase in the recruiter force or with the continued use of VEAP with large kickers. 6/ Enlistment bonuses have proved useful (especially for the Army) because they not only increase high-quality recruit supply but also encourage recruits to serve in less desirable skills for longer enlistment periods. Cash enlistment bonuses have undoubtedly helped the Army to achieve a better balance between the combat and noncombat arms occupations with respect to recruit aptitude and education levels.

This cost-effectiveness estimate is subject, like the other estimates in this chapter, to qualification. CBO assumed that additional cash bonuses would be paid only to male high school graduates in above-average test categories. This assumption was made to facilitate consistent comparisons with the cost-effectiveness measures developed for the other programs. In practice, however, the Army pays an enlistment bonus for service in selected skills to both male and female high school graduates in the three highest test categories. Inclusion of these other populations raises the number of eligibles by about 75 percent and thus substantially reduces the cost-effectiveness of the cash bonus program for recruiting additional high-quality male recruits.

The Army already has an extensive and growing enlistment bonus program. Some might consider a further expansion of

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6/ In developing the cost-effectiveness estimate for cash enlistment bonuses in Table 8, CBO estimated that a $3,000 cash bonus represents approximately a 10 percent increase in recruit compensation over the first-term enlistment, and that this would produce a corresponding 10 percent increase in high-quality recruit supply. Thus, an additional expenditure of approximately $110 million annually for cash enlistment bonuses paid only to Army male high-quality recruits would produce approximately a 10 percent (or about 3,200) increase in the supply of those Army recruits. This methodology is described in greater detail in Congressional Budget Office, Costs of Manning the Active-Duty Military (May 1980), Appendix A.

the program as tending to undermine the concept of selective application of the bonus. Under present policy, about one-fifth of Army recruits are receiving enlistment bonuses. 7/ Assuming that the current practice of paying comparable enlistment bonuses to both male and female high school graduates in the three highest test categories would be continued, the Army would probably have to pay an enlistment bonus to about half of all new recruits to achieve a 10 percent improvement in the supply of high-quality male recruits.

Increasing Basic Pay

An across-the-board pay raise would increase the number of high-quality recruits. CBO estimates that a 10 percent basic pay raise for Army enlisted personnel (in addition to the normal comparability increase) would produce an equivalent 10 percent increase in high-quality male recruits at a total cost of more than $200,000 each. 8/ This result suggests that, like some educational benefit proposals, the application of a pay raise to achieve a selective improvement in recruiting would not prove very cost-effective.

7/ In fiscal year 1981, for example, the Army spent about $57 million in providing 18,000 bonus payments (an average of $3,000 each) to high school graduates who scored in the three highest test categories and enlisted in selected occupations (primarily combat arms). For fiscal year 1982, the Congress approved $105 million (including funds for a Congressionally-mandated test program) in Army enlistment bonuses to provide more payments and a larger average amount (typically $4,000). For fiscal year 1983, the Army has requested $141 million to make approximately 26,000 bonus payments. While the projected number of payments differs little from fiscal year 1982, the average amount of each payment will apparently increase from $4,000 to $5,000.

8/ This calculation includes only the cost in Army enlisted basic pay and is not reduced by any potential savings in recruiting and training costs resulting from lower turnover. At current pay levels, a 10-percent Army enlisted basic pay raise would cost about $700 million. Of course, the Congress normally grants pay raises to both officers and enlisted personnel in all four services and includes increases in other forms of compensation such as housing allowances.

This high cost per additional high-quality recruit ($200,000) would be roughly the same whether or not the Army permitted the higher retention attributable to the pay raise. CBO estimates that these new recruits would stay in service about 20 percent longer. In the Army, for example, the average time in service for an enlisted person is about 5.8 years. This would jump to about seven years should the Army permit the increased retention to occur. While a more experienced force might improve defense readiness, it would also cost more. A 10 percent basic pay raise would cost approximately $700 million in Army enlisted basic pay at today's force levels and with today's experience mix. With the more senior force, however, the cost would rise to about $1.3 billion. Moreover, the higher retention would ultimately increase total Army enlisted retirement costs by at least as much. 9/ Thus, combining the added pay and retirement costs and allowing for the reduced recruiting requirement attributable to better retention, the cost per additional high-quality Army recruit would still amount to over $200,000.

Only Army enlisted basic pay has been used in this calculation, but an across-the-board pay raise would apply to both officer and enlisted personnel for all services (as well as the reserves). If non-Army improvements in force manning are disregarded, the total cost per additional Army recruit would be several times greater than indicated in Table 8.

The Need for an Appropriate Mix of Recruit Incentives

The previous discussion suggests that no single incentive or program can meet all of the recruiting needs of the services. The answer lies in a balanced mix of recruiting resources, incentives, and enlistment options that can appeal to a broad segment of the youth enlistment market.

In devising an appropriate mix, estimates of cost-effectiveness can be of use together with a knowledge of the practical

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9/ CBO estimates that the steady-state undiscounted increase in Army enlisted retirement cost (in constant fiscal year 1983 dollars) would amount to about $1.4 billion annually. It would not, however, reach this steady-state condition for at least 30 years after implementation of the pay raise.

limits to which a program can be expanded. The data presented here strongly suggest that, if additional incentives are necessary to maintain or to increase high-quality enlistments, the Congress may wish to devote more resources to other recruiting methods before authorizing an across-the-board pay raise (beyond normal comparability raises) or enacting a large-scale noncontributory educational benefit.

REDUCING EDUCATIONAL BENEFIT COSTS THROUGH BETTER TARGETING

Should the Congress decide to implement a noncontributory program, it could reduce the costs by establishing more restrictive eligibility standards than were typical of the Vietnam-era GI Bill. Excluding officers, for example, on the grounds that a recruiting incentive for them is not necessary, would reduce costs for the three noncontributory options by about 15 percent. If the Congress was concerned only about Army enlisted recruiting, it could restrict the program accordingly and reduce costs by over one-half, although this might be seen as unfair to those not permitted to participate. 10/ This concern over equitable treatment for servicemembers underscores the difficulty of employing educational benefits as an effective recruiting device. If all military personnel were made eligible for the benefit, the program would not be competitive on a cost-effectiveness basis with other alternatives.

Finally, the near-term costs could be reduced by permitting only new recruits to participate in the program. The cost estimates developed in Chapter IV assume that all servicemembers

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10/ In this regard, the Congress could enact some combination of Options I and II described in Chapter IV. The DoD could be granted the authority to pay the recruit's VEAP contribution and thus install a noncontributory VEAP with kickers equivalent to the benefit depicted in Option II. By restricting this option to Army high-quality recruits, continuing basic contributory VEAP without kickers for all other recruits, and including a 25 percent cash-out provision, the program's cost-effectiveness could be improved considerably. Instead of an estimated range of $120,000 to $200,000 per additional Army high-quality recruit for the noncontributory options (see Table 8), the cost per additional high-quality recruit for this combination of Options I and II could be as low as $70,000.

become eligible to participate in the program on the date of its enactment and, after completing the three additional years' service required, become vested in at least the minimum benefit. Costs in the early years of the program would be much lower if only new recruits subsequent to the date of enactment of the bill were eligible to participate. Steady-state costs would remain unchanged, however, and thus the long-run cost-effectiveness of the program would be the same.

INCLUSION OF THE RESERVES IN ANY NEW EDUCATIONAL BENEFIT OPTION

New Benefit Proposals

Seven of the thirteen educational benefit bills introduced during the 97th Congress include a separate program for the Selected Reserves. Interest in a reserve educational benefit program reflects the Congress' desire for equitable treatment of all military personnel and its concern over the decline in quality and size of the reserves (especially the Army Reserve and National Guard) since the advent of the all-volunteer force.

Recent difficulties in maintaining reserve strength can be traced in large part to the substantial number of first-term reserve servicemembers who were motivated to enlist by the draft and who subsequently separated during the latter part of the 1970s. While it has been difficult to replace these draft-motivated volunteers with high-quality recruits, retention in the reserves has steadily improved as proportionately more career-committed personnel have entered them. Little if any data exist to indicate how much a generous educational benefit might improve quality recruiting for the reserves, but, unlike the active force, members would not have to separate in order to make use of the benefits.

All of the proposed reserve programs permit servicemembers to earn benefits at a fraction of the active-duty rate for an equivalent time in service. Generally these bills specify that each year in the reserves earns about one-fourth the equivalent of the proposed active-duty educational benefit. Since reservists typically spend about one-fifth as much time in paid service as their active-duty counterparts over an initial six-year enlistment term, a fraction of one-fourth appears roughly equitable. While a more generous program might improve quality recruiting in the reserves, concern over equity may prevent the Congress

from enacting provisions that would be substantially different from those applying to the active force.

Enlistment Incentives Available in the Reserves

The Selected Reserves currently have in place a combination enlistment bonus/educational benefit package designed to attract high school graduates scoring in the upper three test categories. These benefits are available only for enlistment in critical skills. Since the Army Reserve and National Guard enlist about 85 percent of new reserve recruits, they are the predominant users of these incentives.

An eligible non-prior-service recruit can elect either a maximum $2,000 enlistment bonus or a tuition reimbursement plan for up to $4,000. If the recruit elects the enlistment bonus, one-half is paid upon completion of basic and initial skill training, one-quarter upon completion of the fourth year of service, and the balance between the first and last payments in a manner determined by DoD. If the recruit elects the educational benefit instead, tuition, books, and fee payments are reimbursed up to a maximum of $1,000 in each calendar year of service and $4,000 altogether. 11/

A combination enlistment bonus and educational benefit has been in effect since fiscal year 1979. During that year, only about 500 eligible recruits chose the educational benefit plan. The benefits then, however, were only half those available now. In fiscal year 1981, by contrast, 7,000 eligible recruits (primarily Army) chose the educational benefit and another 13,500 signed up for the enlistment bonus (including the $1,500 unit bonus). Together, these groups represented about 25 percent of the Army Guard and Reserve non-prior-service recruits enlisted during 1981.

Existing data do not indicate how many of these recruits were induced to enlist by the availability of the incentives. Thus the Congress may choose to await further evidence before embarking on a new program such as those recommended in the several educational benefit bills already introduced.

11/ In addition, a $1,500 enlistment bonus can be earned for service in high-priority units, usually those designated to deploy in the early stages of a mobilization.

THE EFFECT OF INTRODUCING A NEW PROPOSAL ON THOSE ALREADY VESTED IN THE VIETNAM-ERA GI BILL OR VEAP

The manpower and cost analyses discussed in Chapter IV did not take into account the costs and effects of the current educational benefit programs. The estimates in this report assume that all servicemembers (not just new recruits) who complete the required number of years' service would vest in the new benefit. Yet many of them (those with more than six years' active-duty service) have already earned Vietnam-era GI Bill benefits that they may find more generous than those of a new program. These may choose to train under the Vietnam-era GI Bill, thus reducing the near-term cost associated with any new proposal. However, the Vietnam-era GI Bill will terminate automatically at the end of 1989 unless the Congress takes legislative action to continue it.

The situation with VEAP is different. Except for those servicemembers who have earned a kicker, all who have contributed to VEAP would likely find any new program much more generous and, provided they met the service time eligibility requirement, would be likely to disenroll from VEAP and request a refund. Under current federal accounting standards, payments from the trust fund that holds a servicemember's contribution must be accounted for as an outlay against the government. The trust fund presently contains about $400 million in current and former servicemember contributions. If these personnel were permitted to switch over to a new program, the cost to the federal government could approach several hundred million dollars in refund payments. These outlays, however, would eventually be offset by reduced outlays for the government's share of VEAP.

Termination of the Vietnam-era GI Bill inevitably had an adverse affect on high-quality recruiting. Yet this termination may account for some of the increase in first-term reenlistment rates in the past three years because the incentive to separate no longer exists for personnel now reaching the first-term reenlistment point. Some more senior career servicemembers may, however, choose to separate to use their Vietnam-era GI Bill benefits before the program terminates in 1989. Over the past few years, numerous bills have been introduced to extend or eliminate the termination date. Available data do not permit an estimate of the effect such an extension would have on defense manpower and veteran education costs.

APPENDIXES

APPENDIX A. SUMMARY OF MILITARY EDUCATIONAL ASSISTANCE PROPOSALS

TABLE A-1. SUMMARY OF MILITARY EDUCATIONAL ASSISTANCE PROPOSALS a/

Proposal	Basic Benefit	Career Benefit	Transfer of Benefit	Reserve Benefit	Other Benefits
Montgomery H.R. 1400 (House Veterans' Affairs Committee)	Three (six) years' active service or two years' accive and four years' Selected Reserve service after 9/30/81 earns 36 months' benefit paid at $300 ($600) monthly. DoD may add to monthly benefit for service in critical skills.	None, except for transfer rights.	Ten or more years' active service, three of which must be after 9/30/81, allows transfer of earned benefit to spouse and/or dependents. Transferor must be on active duty or retired while beneficiary(s) use benefit.	No benefit for those without previous active service.	For those on active duty, beyond first enlistment, up to two years' educational leave of absence with basic pay. For those with two or more years' active service beyond 9/30/81, in-service use of earned benefit.
Armstrong S. 25	Two years' active service after 12/31/80 earns 27 months' benefit at $250 monthly plus tuition reimbursed up to $3,000 for each of three academic years. Each month of active service beyond two years earns one additional month's maximum of 36 months.	Four or more years' active service, beyond initial two for basic benefit, allows service member to contribute $25-$100 monthly for up to 120 months to education fund matched two for one by DoD After two years' contribution, can withdraw up to $500 monthly for education purposes, until fund exhausted.	Once vested and eligible to withdraw career benefit, can transfer any portion to spouse and/or dependents. Basic benefit not transferable. Transferor must be on active duty or retired while beneficiary(s) use benefit.	Each four months' Selected Reserve duty earns one month's benefit (paid at active-duty rate) for up to 36 months' benefit.	For those on active duty, beyond first enlistment (or more than four years for officers), up to 12 months' leave of absence without basic pay. For those with two or more years' active service, in-service use of earned benefit.

(Continued)

TABLE A-1. (Continued)

Proposal	Basic Benefit	Career Benefit	Transfer of Benefit	Reserve Benefit	Other Benefits
Cohen S. 742 and Emery H.R. 2790	Two years' active enlisted service after 9/30/81 earns 18 months' benefit at current Vietnam-era GI Bill rate (now $342 per month); three years' active enlisted service earns 24 months' benefit and four years' earns maximum 36 months benefit.	Six years' service beyond 9/30/81 allows enlisted member to contribute $25-$100 monthly for up to 60 months to education fund, matched two (or more) for one by DoD. After 10 years' service, including two years as contributor, member can withdraw up to $500 monthly for education purposes until fund exhausted.	Once vested and eligible to withdraw career benefit, can transfer any portion to spouse and/or dependents.	Two years' enlisted Selected Reserve service earns nine months' benefit (paid at active-duty rate). Each additional three months' reserve duty earns one month's benefit. Cannot exceed 36 months' earned benefit.	For those who reenlisted after 9/30/81, up to 12 months' leave of absence without basic pay. For those enlisted with ten or more years' active service, two of which occurred after 9/30/81, in-service use of earned benefit.
Warner S. 5 and Whitehurst H.R. 1206	For accessions entering DoD-selected skills after 9/30/81, three years' active service earns 18 months' benefit at $200 monthly plus tuition reimbursed up to $1,500 for each of two academic years. Four years' active and four years' reserve or six years' active service only earns 36 months' maximum benefit.	None, except for transfer rights.	16 or more years' active service on or after 9/30/81 permits transfer of any or all of earned benefit to spouse and/or dependents.	No benefit for those without previous active service.	None.

(Continued)

TABLE A-1. (Continued)

Proposal	Basic Benefit	Career Benefit	Transfer of Benefit	Reserve Benefit	Other Benefits
Pressler S. 26 (Educational benefit portion of bill only)	Any service member or veteran with two years' active service after 1/31/76 earns 24 months' benefit at current Vietnam-era GI Bill rate (now $342 per month). 45 months' service earns maximum 45 months' benefit. Service in DoD-selected skills after 9/30/81 can earn 1.5 months' benefit (maximum 45) for each month's service.	None, except for transfer rights.	Eight or more years' active service permits transfer of any or all of earned benefit to spouse and/or dependents.	Each month's active duty for training earns 1.5 months' benefit and each four months Selected Reserve service earns one month's benefit paid at Vietnam-era GI Bill rate. Maximum 36 months' benefit for minimum four years' Selected Reserve commitment.	Accelerated withdrawal of benefits permitted. Those eligible for other veteran educational assistance (Chapters 31 or 34), may receive not more than 64 months' total benefit. In-service use of earned benefit after six months' active or one year Selected Reserve service.
Granston S. 417	Three years' active or two years' active and four years' Selected Reserve, service after 9/30/81 earns 36 months' benefit paid at $250 monthly. Each month's active service beyond period required for basic benefit earns $375 monthly supplemental benefit up to 36 months.	None, except for transfer rights.	Ten or more years' active service in DoD-selected skills permits transfer of any or all benefit to spouse and/or dependents.	No benefit for those without previous active service.	Earned basic and supplemental benefits can be paid out simultaneously, with supplemental paid at accelerated rate not to exceed $500 monthly. DoD can increase benefit amounts for service in selected skills.

(Continued)

TABLE A-1. (Continued)

Proposal	Basic Benefit	Career Benefit	Transfer of Benefit	Reserve Benefit	Other Benefits
Hunter H.R. 2399	Three (six) years' active service after date of bill's enactment earns 36 months' maximum benefit paid at $300 ($600) monthly.	None, except for transfer rights.	Ten or more years' active service on or after date of enactment permits transfer of any or all of earned benefit (or unearned if agrees to serve three [six] additional years) to spouse and/or dependents.	Two years' Selected Reserve service after date of bill's enactment earns 24 months' benefits paid at $150 monthly.	Monthly benefit indexed to annual increase in education cost. For those with one or more years active, in-service use of accrued benefit permitted.
Bennett H.R. 135	For accessions entering after 9/30/81, two years' active service earns 36 months' benefit at $300 monthly, plus tuition reimbursed up to $3,000 for each of four academic years.	None.	None.	No benefit for those without previous active service.	one.
Thurmond S. 7	Two years' active service after 9/30/81 earns 36 months' benefit paid at $400 monthly.	None, except for transfer rights.	Eight or more years' active duty, two of which must be after 9/30/81, allows transfer of earned benefit to spouse and/or dependents.	Four years' Selected Reserve service after 9/30/81 earns 36 months' benefit paid at $200. monthly.	None.

(Continued)

TABLE A-1. (Continued)

Proposal	Basic Benefit	Career Benefit	Transfer of Benefit	Reserve Benefit	Other Benefits
Mitchell H.R. 3340	For those enlisting or reenlisting after date of enactment, two years' active service earns 18 months' benefit at current Vietnam-era GI Bill rate (now $342 per month); three years' service earns 24 months' benefit and four years' earns maximum 36 months' benefit.	None.	None.	Two years' enlisted Selected Reserve earns nine months' benefit (paid at active-duty rate). Each additional three months' reserve duty earns one month's benefit. Cannot exceed 36 months' earned benefit. Must enlist for six-year term to be eligible for benefit.	In-service use of earned benefit. For enlisted who have reenlisted, up to 12 months' leave of absence without basic pay.
Lujan H.R. 3897 (As amended by staff)	Return to Vietnam-era GI Bill benefit levels for those serving after 9/30/81. Six months' active-duty service earns six months benefit. Each month active beyond six months' earns one additional month's benefit up to maximum 45 months'.	None.	Basic benefit not transferable.	None.	None.

a/ Unless specifically noted, bills apply to both enlisted and officer personnel.

APPENDIX B. THE ENLISTMENT APPEAL OF MILITARY EDUCATIONAL BENEFITS WITHIN THE CONTEXT OF FEDERAL POLICY TOWARD POSTSECONDARY STUDENT AID

Proponents of an improved military educational benefits program often assert that:

- Expansion of federal domestic student aid programs in recent years has made VEAP appear less attractive to youths seeking to further their education. According to Professor Charles Moskos, a well-known military sociologist, "In effect, we have created a GI Bill without the GI." 1/
- A more generous military educational benefits program could have strong enlistment appeal to college-bound youths, thereby improving both the quality and representativeness of military enlistments.

The data in this appendix suggest that, despite the expansion of federal student aid programs in recent years, the military does not appear to have lost any of its share of the youth population to postsecondary institutions. Moreover, while the growth of student aid programs may have made it easier to attend the more expensive schools, this appears not to be the determining factor in decisions whether or not to attend college: other, nonpecuniary factors tend to predominate. This suggests that military educational benefits are not likely to have much drawing power among the traditional college-going population.

THE CHANGING FEDERAL ROLE IN PROVIDING STUDENT AID

Enactment of the World War II GI Bill in 1944 established the federal government's role as a provider of student assistance.

1/ Statement of Charles C. Moskos, Jr., in First Concurrent Resolution on the Budget--Fiscal Year 1981, Hearings before the Senate Committee on the Budget, 96:2 (February and March 1980), vol. 1, p. 265.

For the next two decades, the GI Bill remained virtually the only source of direct federal assistance to postsecondary students. 2/ Passage of the Higher Education Act in 1965 paved the way for a significant expansion in student aid through a wide array of nonmilitary programs. The act offered assistance in the form of loans and grants, primarily to students who otherwise might be unable to attend their preferred college. In that same year, moreover, Social Security payments and payments under other income maintenance programs were extended to cover eligible families with dependents in college.

Over time, the Congress expanded the scope of domestic student aid programs to include middle-income students as well, culminating in the Middle Income Student Assistance Act of 1978. Not surprisingly, this expansion in student eligibility led to great increases in federal student subsidies, particularly in the volume of Guaranteed Student Loans (GSL). At the same time, the Congress also chose to lessen military educational benefits by eliminating Vietnam-era GI Bill benefits for new recruits in 1977 and substituting a much less generous contributory program.

Table B-1 highlights both the dramatic growth in federally sponsored domestic student aid and the diminishing role of the Vietnam-era GI Bill in recent years. In 1975, over 50 percent of all student aid for those attending postsecondary schools came from the Vietnam-era GI Bill. Under the Administration's plan for 1983, this will drop to just over 10 percent.

The turnaround in the growth of student aid is the result of recent and proposed legislation. The Congress has voted to phase out Social Security payments to student beneficiaries by July 1985. It has also tightened eligibility requirements for Pell Grants and guaranteed student loans. For fiscal year 1983, the Administration has proposed even further eligibility restrictions on Pell Grants, which should lower funding for the 1983-1984 school year to $1.4 billion compared to about $2.1 billion in 1981-1982. The Administration also proposes to drop graduate students from the guaranteed student loan program, these students have accounted for about 30 percent of all loan volume. (Graduate students would be permitted,

2/ In 1958, however, the Congress passed the National Defense Education Act to provide low-interest loans directly to students.

TABLE B-1. DISTRIBUTION OF FEDERAL STUDENT AID FUNDS (By fiscal year, in billions of dollars)

Student Aid	Actual			Administration Plan	
	1975	1980	1981	1982	1983
Grants	0.9	2.6	2.5	2.3	2.1 a/
Loans (volume) b/	1.3	5.1	7.9	7.2	4.9 c/
College Work Study	0.3	0.6	0.6	0.5	0.4
OASDI Payments to Students d/	1.4	2.2	2.3 e/	1.9 f/	1.2 f/
Vietnam-Era GI Bill g/	4.2	2.0	2.0	1.6	1.3
Total	8.1	12.5	15.3	13.5	9.9

a/ Passage of Administration proposals to reduce the maximum annual Pell Grant award to $1,600 and to tighten eligibility requirements should bring the grant level down to about $1.4 billion in fiscal year 1984.

b/ Includes national direct student, guaranteed student, and parent loans through 1982. Fiscal year 1983 excludes any new NDSL funds as proposed by the Administration. Figures represent volume of new loans and thus exclude value of former loans or relending of NDSL funds formerly paid by students.

c/ CBO estimate based on Administration proposal to eliminate all National Direct Student Loans and Guaranteed Student Loans for graduate students (about 30 percent of GSL volume) and to allow these students to participate in the much more restrictive parent loan program. This CBO estimate also incorporates the Administration's proposal to require a needs analysis for all students, rather than just for students with parental income above $30,000 as under current law.

d/ Includes payments to 18-year-old high school students, estimated by CBO at about 18 percent of payments.

e/ CBO estimate, actual not yet available.

f/ This CBO estimate includes the effects on costs of eliminating new benefits to child beneficiaries after August 1982 and of phasing out the entire program by July 1985.

g/ Current law terminates this program for all training veterans on December 31, 1989.

however, to participate under the Auxilliary or Parent loan program. (To date, banks have expressed little interest in this loan guarantee program.) The Administration has also proposed a needs analysis test for all applicants for guaranteed student loans, whereas the current law applies this test only to students with a parental income above $30,000. Also, the Administration has not proposed any new funds for the National Direct Student Loan programs.

STUDENT SUBSIDY AND SCHOOL ATTENDANCE PATTERNS

Students Are Heavily Subsidized

The extent to which students are currently subsidized is quite striking. For example, aid in the form of grants and loans from federal, state, and local sources covers more than half of total postsecondary education costs for aid-recipient students from families with below-average incomes (see Table B-2), and more than 40 percent for students from families with above-average incomes 3/

For example, about two-thirds of postsecondary students from families with annual incomes below $15,000 receive aid, as compared to just over 40 percent of those from families with annual incomes above $35,000.

Attendance patterns by type of school appear to be related to the availability of substantial subsidies. Table B-3 shows that students whose school costs are heavily subsidized are more likely to attend four-year private schools than students with little or no subsidy available. This is true for all parental income

3/ "According to figures from the College Entrance Examination Board, the 'average' freshman in the fall of 1979 paid college costs totalling $2,485, with approximately 30 % of this amount from Federal student aid, 35 % from parents, 20 % from student earnings and savings, and 15 % from State, college, or other sources. During the 1980-81 academic year, it is conservatively estimated that at least 4 million of over 12 million students enrolled in the postsecondary sector were receiving some form of Federal student financial aid." Quoted from Congressional Research Service, Student Financial Assistance: FY82 Budget, Issue Brief IB81042 (March 1981, updated December 1981) p. 2.

TABLE B-2. PROPORTION OF POSTSECONDARY FULL-TIME EDUCATION COSTS SUBSIDIZED THROUGH FEDERAL, STATE, AND LOCAL GRANTS AND LOANS, BY PARENTAL INCOME OF STUDENTS, 1979-1980 (Base: students receiving aid)

	Below $15,000	$15,000 to $25,000	$25,000 to $35,000	Above $35,000
Mean Education Costs for Those Receiving Aid	$3,600	$4,000	$4,800	$5,400
Percent of Total Education Costs Subsidized by Grants and Loans	56	54	48	43

SOURCE: CBO tabulations of the 1979-1980 school year Student Survey Record Review Data Base compiled under contract with the Department of Education as part of "A Study of the Impact of Student Financial Aid Programs (SISFAP-III)." The data base consists of a mail survey of 20,000 students attending 172 preselected postsecondary institutions and information extracted from approximately 12,000 student financial aid records available at these institutions.

TABLE B-3. FULL-TIME SCHOOL ATTENDANCE PATTERNS AMONG STUDENTS WITH HEAVY-TO-MODERATE AND MODERATE-TO-LOW SUBSIDY LEVELS (In percents, by type of school attended)

Percent Attending	Private Four-Year	Public Four-Year	Public Two-Year or Proprietary	Total
One-Third or More of Total School Costs Subsidized	40	45	15	100
Less Than One-Third of Total School Costs Subsidized	26	46	28	100

SOURCE: Same as Table B-2.

groups. The data suggest that the availability and extent of student aid may affect school choices to a significant degree. 4/

School Attendance Rates Have Fallen

Despite the dramatic expansion in student aid programs over the decade of the 1970s, the proportion of high school graduates attending postsecondary institutions has declined in all income brackets (see Table B-4). In 1971, for example, slightly more than half of all 17- to 22-year-old male high school graduates were enrolled in postsecondary schools on a full-time basis. By 1979, the ratio had dropped to just under 40 percent. These data do not support the hypothesis that, in its efforts to recruit more qualified applicants for military service, the military has been edged out by postsecondary institutions. Nor do they imply that cuts in student aid would discourage large numbers of youths from attending college (or encourage them to enlist). Rather, the cuts would be more likely to affect the type and extent of college attendance (for example, shifting attendance from four-year private to four-year public institutions).

STABILITY OF CAREER PLANS AMONG HIGH SCHOOL SENIORS

Recent surveys show that career plans among high school students are quite firm so far as college attendance is concerned. For example, the National Longitudinal Survey of the High School Class of 1972 shows that more than 80 percent of males who planned to enter a four-year college in the fall of 1972 actually did so (see Table B-5). In sharp contrast, fewer than 24 percent of those who planned to enter military service after graduation actually enlisted. Admittedly, these data are less than conclusive since the fact that the draft was still in effect at the time. The 1980 Longitudinal Survey ("High School and Beyond") will show, when its results become available, the extent to which this pattern may have changed.

A more recent measure of youth career plans can be obtained from the Armed Services Vocational Aptitude Battery (ASVAB) test

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4/ Since the amount of student aid is often tied to school costs, it is difficult to disentangle the independent effects of this aid on student behavior. Yet some relationship probably exists.

TABLE B-4. PERCENTAGE OF 17- TO 22-YEAR-OLD MALE HIGH SCHOOL GRADUATES ENROLLED IN SCHOOL AS MAJOR ACTIVITY (For selected years, by parental income)

Parental Income (in 1979 dollars)	1968-1969	1971	1974	1977	1979
Below $12,800	42	38	34	30	30
$12,800-$21,400	55	44	35	32	30
$21,401-$29,400	61	48	38	38	34
$29,401-$40,100	64	58	47	42	40
Above $40,100	77	69	61	58	60
All Income Levels	60	51	43	40	39

SOURCE: CBO tabulations of the annual October Current Population Surveys (CPS).

TABLE B-5. PERCENTAGE OF 1972 MALE HIGH SCHOOL SENIORS WHO FULFILLED ORIGINAL CAREER PLANS IMMEDIATELY AFTER GRADUATION AND WERE STILL IN THAT STATUS ONE YEAR LATER

Plans in Spring 1972	Percent Who Fulfilled Original Plan as of October 1972	Percent Who Continued with Original Plan as of October 1973
Military Service	24	18
Vocational/Technical School	43	20
Two-Year College	66	42
Four-Year College	80	65

SOURCE: National Longitudinal Survey of the High School Class of 1972. A new 1980 cohort of youths has been selected for study, but subsequent follow-up data on this cohort are unavailable.

(see Table B-6). Ten percent of the male high school seniors who took the ASVAB test during the 1976-1977 school year indicated they planned to enter military service after graduation. Another 30 percent said they intended to enroll in a four-year college, while 28 percent were undecided. A check of the military enlistment files one year later revealed that 60 percent of those who had planned to enter the military actually enlisted, while only 7 percent of those who had planned to attend a four-year college decided to enlist in the military instead. Only 18 percent of the undecided group chose to enter the military.

Overall, these data show that high school seniors intending to enter college are not likely to change their plans. Unlike the results from the 1972 National Longitudinal Survey given in Table B-4, however, these data also indicate that a much higher

TABLE B-6. COMPARISON OF CAREER PLANS AND ACTUAL ENLISTMENTS FOR MALE HIGH SCHOOL SENIORS TAKING THE ASVAB TEST DURING THE 1976-1977 SCHOOL YEAR

Career Plan	Percent Distribution of Test Takers by Career Plan	Percent in Each Career Plan Group Enlisting Within One Year
Military Service	10	60
Vocational/Technical School	8	11
Two-Year College	7	10
Four-Year College	30	7
Work	17	10
Undecided	28	18
Total Test Takers	100	16

SOURCE: Gus C. Lee, Evaluation of the DoD High School Testing Program, HumRRO, Final Report (January 1979), p. 49.

percentage of youths who plan to enter military service actually do so one year later. Again, this suggests that uncertainty over the status of the draft in 1972 may have affected the career intentions measured by the National Longitudinal Survey.

FUTURE POPULATION DECLINES

The decline in the youth population of prime enlistment age has been a source of continuing concern to the military. Table B-7 shows that while an overall decline of 15 percent can be anticipated over the next six years, the number of youths from lower- to middle-income families will decline less sharply than the number from families with above-average incomes. The military generally draws its recruits from the middle- to lower-income groups, while colleges draw much more heavily from the above-average income category. Thus the military will experience less of a decline in its enlistable population than the colleges, perhaps resulting in a more competitive environment for military and college recruiters.

TABLE B-7. PROJECTED POPULATION OF NINETEEN-YEAR-OLD MALES, BY FAMILY INCOME (In thousands)

Annual Family Income (in 1978 dollars)	1982	1983	1984	1985	1986	1987	Percentage Decline 1982-1987
Below $15,000	820	840	840	780	780	760	7
$15,000-$24,999	700	690	650	630	620	610	13
Above $25,999	590	560	500	490	440	430	27
Total	2,110	2,090	1,990	1,900	1,840	1,800	15

SOURCE: These data were produced by converting the 11- through 16-year-old male population counts by family income in the March 1979 Current Population Survey files into the projected proportion of 19-year-old males by family income. For example, the 1987 figure of 1,800,000 males aged 19 represents the actual population projected by the Census Bureau. See U.S. Bureau of the Census, Projections of the Population of the United States: 1977 to 2050, Series P-25, No. 704 (July 1977). This figure was then reapportioned by family income according to the population income stratification of 11-year-olds found in the March 1979 Current Population Survey.

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